REPORT

ON THE

HEALTH OF THE BOROUGH

OF

BIRMINGHAM,

(321)
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FOR THE YEAR 1873;

ALSO,

ON THE PROCEEDINGS TAKEN UNDER THE ACT FOR THE

PREVENTION OF ADULTERATION

OF ARTICLES OF FOOD AND DRINK,

BY

ALFRED HILL, M.D.,

Medical Officer of Health

and

Analyst to the Borough.

G. Sutton

PRINTED BY ORDER OF THE SANITARY COMMITTEE.

BIRMINGHAM:
W. G. MOORE & Co., PRINTERS, GAZETTE BUILDINGS, HIGH STREET

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MEDICAL OFFICER OF HEALTH'S DEPARTMENT,
PUBLIC OFFICE, BIRMINGHAM,
February 26th, 1874.

TO THE SANITARY COMMITTEE.

MR. CHAIRMAN AND GENTLEMEN,

In presenting my first Annual Report, I beg to observe that it will of necessity lack one element of value, viz.: a detailed comparison of many facts and results with corresponding ones of former years, though wherever these can be obtained from any sources they shall be given.

The subjects dealt with will necessarily consist of those treated of in my four quarterly Reports, presenting, however, in addition to a comparative statement of each quarter's results, an annual summary, and a consideration at greater length of some important sanitary questions, both of general and local interest, upon which it seems desirable that information should be afforded and opinions expressed.

The total number of Births registered in the Borough during the year of 53 weeks ended January 3rd, 1874, is 14,497 consisting of 7,340 males, and 7,157 females.

BIRTHS.

1873.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
Total	3,741	3,564	3,378	3,814	14,497
Males	1,892	1,783	1,715	1,950	7,340
Females	1,849	1,781	1,663	1,864	7,157

This is equal to 40·78 per 1,000 of the population, the total average for the nine years 1865—1873 being 38·05 per 1,000, the annual average being as follows—

1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.
38·87	38·48	38·01	36·31	35·53	35·00	39·00	40·50	40·78

Total average = 38·05.

so that the birth-rate of the year is not only higher than the average of the past nine years, but also higher than in any single year since 1864, and higher than in any of the following large towns, except Leeds and Newcastle, as seen below—

London.	Norwich.	Birmingham.	Liverpool.	Manchester.	Leeds.	Newcastle.	Average of 18 large towns.
35·5	32·9	40·8	37·3	39·1	41·6	41·8	37·05

This high birth-rate while very satisfactory as an indication of the thriving condition of the town has a very important bearing on the question of absolute and relative mortality, to which further reference will be made presently.

The mortality of the year has been occasioned principally by Bronchitis (the most fatal complaint of our country), Phthisis, and the diseases of children, including the Zymotic class.

The Deaths during the year amount to 8,990, consisting of 4,695 males, and 4,295 females, viz.:

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
Total	2,198	1,931	2,235	2,626	8,990
Males	1,145	1,080	1,171	1,299	4,695
Females	1,053	851	1,064	1,327	4,295
Death-rate	24·74	21·73	25·15	27·43	24·81

distributed among the different Registration sub-districts, as follows—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
Ladywood, (H.)	217	211	250	329	1,007
St. Thomas, (H.)	224	194	202	252	872
St. Martin	151	146	196	192	685
St. Peter	96	61	83	117	357
St. Phillip	30	31	35	39	135
St. Paul	39	30	29	40	138
St. Mary	102	106	94	123	425
St. George	353	329	408	490	1,580
All Saints (H)	342	276	229	356	1,203
Deritend (W.L.)	302	242	325	325	1,194
Duddeston	284	249	325	303	1,161
Edgbaston	58	56	59	60	233

The appended statement gives the number of deaths at various ætal periods—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
Under 1 year	554	522	854	697	2,627
Between 1 and 5	371	312	490	624	1,797
〃 5 〃 10	78	75	94	131	378
〃 10 〃 20	88	74	80	109	351
〃 20 〃 40	271	269	233	291	1,064
〃 40 〃 60	352	318	232	350	1,252
〃 60 〃 80	404	320	218	370	1,312
At 80 and upwards	80	41	34	54	209

The causes of death, the ætal periods, the numbers of each sex, together with the distribution of deaths among the Registration Sub-Districts are detailed in Tables I.—VI.

Very much has been said and written lately respecting the greatly increased death-rate of the Borough: it has repeatedly been stated that Birmingham from being the healthiest of the large towns has latterly become the most unhealthy; and not only has the statement been made, but reasons for the increased mortality have been given. Let us enquire, first, has the mortality increased of late years as alleged? The Registrar General's Returns give 24·8 as the death-rate for the ten years 1861—1870, which is identical with that of the single year 1873.

The annual Death-rate per 1,000 persons living in the Borough for the last eight years, is as follows—

1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.
24·53	24·03	25·6	25·9	23·1	23·00	24·9	23·1	24·8

from which it is seen that during this period the death-rate has in three of the years, viz.: 1867, 1868, and 1871 exceeded that of 1873, and that the average death-rate of these eight years is exceeded by the death-rate of the past year by only 0·5 per 1,000, a difference so slight as to be largely within the limits of natural variation, and not to require notice when it is remembered that this year contains 53 instead of the usual 52 weeks, and that the last week was characterised by an exceptionally high death-rate, viz.: 34; secondly, has the town sunk from a high to a low position in the scale of public health among the principal large towns? The following comparative statement, derived from the same source, will be the most complete answer to this question also.

Annual death-rate per 1,000 persons living in 1873.

Average of 18 large towns.	London.	Norwich.	Birmingham.	Liverpool.	Manchester.	Leeds.	Newcastle.
24·05	22·45	21·57	24·8	25.9	30·17	27·55	29·9

So that by the side of the other towns with which it is fairly comparable, it still maintains its old pre-eminence, and it may be safely predicted that in the event of the adoption of those sanitary measures, which all intelligent, competent persons now admit to be necessary, the health of the town will, instead of declining or remaining stationary, continue to improve; in the opposite case, of course, as a natural result, the death rate will become higher.

But though the death-rate of the borough is not so high as in other large towns, it is yet much higher than it otherwise would be, owing partly to the high birth-rate to which reference has been made above; the birth-rate of the borough is seen to be the highest, except that of Leeds and of Newcastle. Now in comparing the mortality of different towns, it is necessary to take the birth-rate into account, for a high death-rate is a natural result of a high birth-rate, all other differences of conditions being neglected; the reason being that mortality in infant life is so much greater than that of adult life. The deaths of infants under one year of age during 1873, are 18·15 per cent. of all the births registered. The numbers are as follows in the most important towns:—

Average of 18 large English towns.	London.	Norwich.	Birmingham.	Liverpool.	Manchester.	Leeds.	Newcastle.
17.4	16·0	16·1	18·15	21·3	20·0	19·4	18·7

While the percentage of deaths of infants under one year of age, on the total deaths is:—

Average of 18 large English towns.	London.	Norwich.	Birmingham.	Liverpool.	Manchester.	Leeds.	Newcastle.
27·02	25·25	24·5	29·2	30·42	25·75	28·0	27.1

It is clear then that given two towns of exactly equal healthiness, but differing in their birth-rate, the one having the highest birth-rate will present the greater mortality, and so appear the less healthy, although, as stated, they shall be exactly equal in sanitary condition. If then Birmingham had as low a birth-rate as London or Norwich, it would have a much lower total death-rate, and would appear, judged by its mortality, in a better sanitary condition and more healthy than at present, without actually being so.

From the weekly statements in Table VII, kindly furnished by Mr. D. Smith, it will be seen that the

Mean Temperature for	1st	quarter	was	39°.00
"	2nd	"		51°.82
"	3rd	"		59°.15
"	4th	"		44°.46
"	Year	"		48°.61

The temperature and state of the weather exert on the character of some diseases a very marked influence, which it is not always easy to explain; Bronchitis and Phthisis are most severe in winter, and proportionately so as the weather is colder and wetter, the general mortality being always highest at this season. Small-Pox, when prevalent, is aggravated by cold bad weather, as the history of the epidemic in Birmingham has taught. In the third quarter of the year, owing to the high temperature, Diarrhœa and allied complaints are always most prevalent, and contribute in Birmingham every year a very large proportion of the mortality. Scarlet Fever is generally most fatal at Autumn time, and Measles, Whooping Cough, and Croup in the Spring.

ZYMOTIC DISEASES.

The diseases of the Zymotic class, which are shewn by experience to be largely preventable and capable of being held in check by the observance of natural sanitary laws, have largely prevailed during the year.

This is best seen by reference to Table I.

Diarrhœa has proved the most destructive, having caused 728 deaths; next in order is Scarlatina, which has occasioned 587 deaths; then follow Fever (typhoid, typhus, and simple continued), with 203 deaths; Whooping Cough, with 169 deaths; Small-Pox (inclusive of three cases of Chicken-Pox), with 125, Measles, 123, and Diphtheria, 107 deaths.

Diarrhœa has been the most fatal of the Zymotic diseases, and caused, in the third quarter, a death-rate of six per thousand, or nearly as many as any other Zymotic disease did during the whole year. There is good reason to attribute Autumnal Diarrhœa principally to seasonal influence, giving a stimulus to the action of the skin and vicariously to the digestive tract, and greater activity to putrefactive decomposition, which reacts on the system by means of impure air and water. Improper diet, of course, has much to do with it, more particularly in the case of infants injudiciously fed, but in adults whose diet is unexceptional as to simplicity and freedom from disturbing qualities, such as is used in workhouse schools, gaols, and lunatic asylums, Diarrhœa is still characteristic of the hot quarter of the year. It is therefore clear that the much abused fruit is not answerable for all the diarrhœa as some avow. On the contrary, the much larger use of fruit and green vegetables is a desideratum. Diarrhœa then is one of those diseases which it is a matter of great importance to suppress, affecting as it does so seriously, the preventable mortality of the Borough. This can only be done by improved sanitary arrangements, but it appeared desirable to issue the following:—

DIRECTIONS FOR THE PREVENTION OF DIARRHŒA.

1.—Observe temperance in eating and drinking.

2.—Avoid improper and unwholesome food, such as tainted meat or fish, and unsound or unripe fruit. As the majority of deaths occur in infants, the greatest care should be taken in feeding them. Young infants should be suckled, or fed with sweet milk, either with or without the addition of water.

3.—Drink no water which is muddy or offensive, or indeed suspicious of contamination by surface impurities; where there is no choice, a suspected water should be boiled and allowed to cool before use as a drink. Water so prepared should not be used for a longer time than one day.

4.—Avoid exposure to great direct sun heat, sudden changes of temperature, and excessive fatigue.

5.—Allow no accumulation of decaying refuse matter in the neighbourhood of dwellings. Much that is thrown out of houses might be advantageously disposed of by being thrown behind the fire.

6.—Report foul ashpits and privies, untrapped drains, and other sources of nuisance to the Medical Officer of Health or Inspector of Nuisances.

7.—Practise personal and domestic cleanliness and free ventilation of houses by opening windows and doors during certain parts of the day.

8.—Disinfect immediately all discharges from patients.

NOTE.—*Disinfectants will be supplied on application to the Sanitary Inspector whenever necessary.*

WHERE THE DISEASE IS PRESENT.

9.—Apply *at once* for medical assistance to a legally qualified Medical Man. Proper treatment at the outset is of the greatest importance; delay is highly dangerous. In the mean-time keep warm and quiet, best of all by going to bed.

10.—Avoid ordinary animal and vegetable food, and adopt a milk diet.

If these directions are followed, the attack will in almost every case prove slight and easily managed; if neglected, it may assume the Choleraic type, and in any case prove highly dangerous and even fatal.

Scarlatina has been the next most fatal Zymotic, and its tale of deaths is not so limited to one quarter as Diarrhœa, which it exceeds in fatality in the other three quarters of the year. The disease has been most prevalent in the Duddeston, St. George's, Deritend, and Ladywood districts. There is no doubt that one of the chief causes of the great prevalence of the disease is due to the incautious association of healthy children with others who have contagion about them, more particularly in schools, where children are found, who, not being ill themselves, yet carry infection from their homes where some member of the family is suffering, or who, having been ill themselves, are sent to school too early—that is, before disinfection has been secured—and so act as centres of infection, radiating it in all directions, to the serious peril of all those in the school who are susceptible of the contagion. It is most desirable that every precaution and preventive means should be taken with regard to the dangers just pointed out; it is important that individuals placed in ordinary circumstances should exercise this care; but it is still more so in the case of scholars, factory hands, and all who congregate in large numbers, but more particularly in the case of the young.

Another channel by which the poison of Scarlatina and allied affections is conveyed is the laundry. Infected clothes are sent to the wash in all parts of the town without any regard being paid to their previous disinfection.

SMALL POX

has continued to hold a prominent place among the Zymotic diseases prevailing in the Borough, though to a less extent than during the year 1872, when the number of cases reported was 1,977, with 299 deaths; while during the year 1873 the number of cases reported is 794, with 122 deaths—a very gratifying diminution, in which, however, the proportion of deaths to cases is pretty nearly maintained. The per-centage indeed has been rather higher than last year, viz.,—15·36 against 15·12, which is an unfavourable indication, and has ranged from 16·95 in the first or Winter quarter of the year, to 14·52 in the third or Summer quarter. The lowest number of cases reported in any month of the year has been 32, viz., in August; the highest, 127 in December. The weekly numbers ranged between 2 in the week ending January 25th, and 42 in the week ending December 6th. Of the 794 cases reported, 713, or 89·80 per cent., were vaccinated, and 78, or 9·82 per cent., were unvaccinated. With regard to the other three cases, it is doubtful whether they had been vaccinated or not. The 122 deaths consist of 81 vaccinated persons, 40 unvaccinated, and one doubtful. The per centage of deaths to cases is 11 36 in the vaccinated and 51·28 in the unvaccinated. The streets where the majority of Small-Pox cases and deaths have occurred are the following—

	Cases.	Deaths.
Unett Street	46	5
Bridge Street West	41	7
Darwin Street	29	2
Great King Street	21	1
Broad Street	12	4
Price Street	12	4
Bartholomew Street	11	3
Irving Street	11	3
Dymoke Street	10	1
Key Hill	10	1
Holliday Street	9	3
Farm Street	9	1
Kent Street	8	4
William Street (St. Thomas')	8	2
New John Street West	8	2
Tennant Street	7	4
Alcester Street	7	1
Smith Street (St. George's)	7	1
Icknield Street East	6	1
Park Lane	6	1
Wharf Lane	5	2
Balloon Street	5	1
Well Street	5	1

In the above list, Bartholomew Street and Smith Street (St. George's) are entirely unsewered; Bridge Street West, Key Hill, Darwin Street, Dymoke Street, Alcester Street, New John Street West, Irving Street, and Unett Street are only partly sewered; the others are sewered throughout. The continued existence to so great an extent of a loathsome and fatal disease such as Small-Pox, ought to be a constant source of anxious attention—the more particularly so, as of all diseases it is the most preventable. Its permanent and wide-spread establishment among us, if we bear in mind the efficacy and inestimable boon of vaccination, must be regarded not only as a calamity, but as a reproach. For Scarlatina, Measles, Whooping Cough, and others of the Zymotic diseases no preventive means have been discovered, and we are fain content to bear the infliction of them with only curative or palliative measures at our command; but the case being otherwise with Small-Pox, nothing less than absolute prevention should be considered satisfactory, or, at least, nothing less than the efficient vaccination of every person, child or adult, should be so considered. But what is the actual fact, as revealed by observation and admitting of no dispute? that nearly 10 per cent. of all the cases of Small-Pox occur in unvaccinated persons; and, as more than one half of the unvaccinated persons attacked die, we have the serious truth forced upon our notice that 5 per cent. of all our Small-Pox cases have a fatal termination, which is preventable. This question has been so repeatedly dealt with in my previous reports, that nothing but a deep sense of its importance and of my own duty in the matter would induce me to recur to it on the present occasion; but I feel I should be improperly disregarding both, in neglecting at every suitable opportunity to bring the question under your notice. Among the manufacturing towns, Birmingham has had a reputation for its exceptional healthiness, but with reference to Small-Pox at the present time, we find, on comparing it with the metropolis, that while there occurred in the Borough during the past year 34·3 deaths from Small-Pox, in London *pro rata* there were only 3·40 deaths,—in other words the mortality from Small-pox in Birmingham is ten times greater than that in London. It may be interesting to see how our Borough stands among the eighteen large towns whose health statistics are published by the Registrar-General, and I have therefore drawn out the following statement, including the rate of deaths from Small-pox per 100,000 of the population.

TOWN.	POPULATION.	DEATHS FROM SMALLPOX IN THE YEAR 1873.	RATE PER 100,000.
London	3,356,073	115	3·4
Portsmouth	118,280	48	40·6
Norwich	81,677	1	1·2
Bristol	189,648	9	4·7
Wolverhampton	70,084	2	2·8
Birmingham	355,540	122	34·3
Leicester	102,694	2	2·0
Nottingham	89,557	0	0·0
Liverpool	505,274	10	2·0
Manchester	354,057	20	5·6
Salford	130,468	4	3·0
Oldham	85,141	1	1·2
Bradford	156,609	21	13·4
Leeds	272,619	112	41·1
Sheffield	254,352	5	2·0
Hull	128,125	26	20·3
Sunderland	102,450	1	1·0
Newcastle-on-Tyne	133,246	4	3·0

The above Table shews that out of the eighteen large English towns, all but five are pretty fairly protected from Smallpox, and present an average mortality of only 2·45 per 100,000, while the rate for Portsmouth is 40·6, for Leeds 41·1, for Birmingham 34·3, for Hull 20·3, and for Bradford, 13·4. Such a difference in the number of deaths from ordinary diseases might be difficult to explain, owing to the numerous and complex influences which combine to cause death; but in the case of Small-pox, the question is reduced to the utmost simplicity; deaths from it are caused by the Smallpox virus, and by nothing else, as far as we are aware; while on the other hand efficient vaccination is an almost perfect prophylactic. The only explanation then is, that whereas the inhabitants of thirteen out of the eighteen towns are generally and efficiently vaccinated, those of the five towns named are not so. These facts speak for themselves; and I feel bound, therefore, again to reiterate the statement I have made in my quarterly Reports, that the one thing needed in this matter is *universal*, efficient vaccination, under compulsion where it can, and under persuasion where it cannot, be legally enforced; also re-vaccination to as great an extent as it is possible to secure it; and there is little doubt that if a rigorous house to house visitation, and examination of the occupants were made, hundreds would be found unvaccinated, and that thousands of the vaccinated would consent to the operation being repeated.

In ordinary times the vaccination stations and other existing machinery are sufficient for the purpose of vaccination, but it is clearly not so when the disease is epidemic, and this exceptional condition of things has been foreseen and provided for by the central authorities; for in a “Memorandum on the steps specially requisite to be taken by Boards of Guardians, under the Vaccination Act, 1867, in towns in which Small-Pox is epidemic,” issued from the Privy Council Office, the following “Special Instructions to Vaccination Officers” are given among others :—

1.—At times when Small-Pox is epidemic, the Officer appointed by the Guardians to see that the provisions of the Vaccination Act are duly observed, should give his first and special attention to the localities in which the infection exists.

3.—In each locality in which the infection exists, the Vaccination Officer should proceed with the utmost possible despatch to *personally ascertain* what children are unprotected by Vaccination, and should use his utmost exertions to obtain the prompt Vaccination of such children. Generally speaking, he must be guided by his own judgment, and by his knowledge of the locality, as to the manner in which his enquiries can best be made; but in infected courts or alleys, as well as in certain kinds of streets, *enquiries from house to house, and, in tenemented houses, from room to room, will be indispensable.*

4.—Where any child is found illegally unvaccinated *(between the ages of three months and fourteen years)*, the Vaccination Officer should give a notice requiring the Vaccination to be done within a specified time. This time, when there is Small-Pox in the house or other special risk of exposure to the contagion, should not exceed twenty-four hours, but in other cases some days, not exceeding a week, may be allowed. A second visit from the Vaccination Officer will, of course, afterwards be necessary, in order to see that his notice has been complied with.

With regard to unvaccinated children not yet three months old who may be in infected localities, the Vaccination Officer should advise the parents not to incur the unnecessary risk of waiting for the child to complete that age before having its Vaccination performed; For Vaccination is performed with perfect safety on children even immediately after birth. In no house in which there is Small-Pox ought a child, however young, on any account to remain unvaccinated, unless on medical examination it be pronounced unfit to be vaccinated.

5.—The Vaccination Officer should make it well known in infected localities that the Public Vaccinator is at liberty to re-vaccinate grown-up and young persons (not under twelve years of age) who have not been before successfully re-vaccinated, and who apply to him for that purpose; and that persons not vaccinated since childhood, who are likely to be exposed to contagion, ought to be re-vaccinated without delay. Above all, this is necessary for persons whose original marks of Vaccination are imperfect.

Again, in "Instructions to Vaccination Officers, issued by the Local Government Board" in December, 1871, we read in Section 11.—"The Vaccination Officer will at all times use his best endeavours to ascertain whether children resident in his district, but *not having been born in it, or (if so born) not having their birth registered in it*, are unvaccinated, and will in such cases take the requisite steps for procuring their Vaccination." Also in Section 12—"He will, *on outbreaks of Small-Pox, make any house to house visitation* which the Local Government Board or Guardians may direct in reference to Vaccination, and will carry out any special instructions they may issue on the subject."

The question then is, have these instructions been fully acted upon? There is reason to believe not. By a full compliance with them, however, and by that only, is it likely or even possible that we shall for many years at least, occupy that favourable sanitary status, in regard to Small-Pox, to which we are entitled in common with other large and, in many respects, less favourably circumstanced communities.

In December there occurred in the neighbourhood of Unett Street what may not inaptly be called an explosion of Small-Pox. A careful inspection of the houses and premises was made, and I issued the following:—

RECOMMENDATIONS CONCERNING SMALL POX.

Small Pox being either entirely preventable, or rendered nearly harmless, by Vaccination, it is the duty of parents to have every child vaccinated at the earliest possible opportunity, especially now that Small-Pox is unusually prevalent.

The Vaccination Act requires that every child shall be vaccinated by the time it is three months old, but there is no necessity to wait so long, and where Small-Pox prevails it is most desirable to practise Vaccination at once, the operation being quite safe at the tenderest age. As very many children have been inefficiently vaccinated, and as the protection afforded by Vaccination seems in some cases to cease with lapse of time, Re-

VACCINATION of all persons above twelve years of age, who have not been vaccinated since childhood, is strongly advised.

Vaccination and Re-Vaccination are gratuitously performed by the Public Vaccinator for the parish of Birmingham, Dr. Robinson, at the times and places given below—

Station 1.—Every Monday at 11 o'clock, at the School Rooms, 27, Old Meeting Street, leading out of Worcester Street.

„ 2.—Every Tuesday at 11 o'clock, at the Rooms occupied by the Working Men's Mutual Improvement Society, Barr Street, leading from Great Hampton Row.

„ 3.—Every Wednesday at 11 o'clock, at St. Mark's School Room, St. Mark's Street.

„ 4.—Every Thursday at 11 o'clock, at the British Workman Reading Rooms, Sherborne Street.

And every Tuesday, at 10 a.m., for that part of the Parish of Aston within the Borough of Birmingham, by

Mr. C. S. Meeke, at 13, Gosta Green.
Mr. H. F. Marshall, 211, Deritend.
Mr. B. T. Robins, 122, Bordesley.
Mr. H. May, 395, Nechells Park Road.

Small Pox patients should be kept separate from the rest of the family, and attended to by as few persons as practicable. This SEPARATION or isolation is sometimes impossible in small or crowded houses; in such cases the patient should be removed at the earliest moment to the Small-Pox Hospital, where the most efficient treatment and the greatest kindness are received. Removal to the Hospital is recommended in all cases.

A Conveyance is provided free of cost.

Cleanliness is absolutely necessary.

Nurses should be persons protected by a previous attack or by vaccination. They should wear linen or cotton clothes, which are easily washed. They should wash their hands frequently in water containing a little Carbolate of Lime, and then in plain water with soap.

They should avoid as much as possible associating with others.

The Sick Room should be well Ventilated, and divested of all unnecessary drapery, such as curtains and carpets. All Bed and Body Linen should, *before removal from the room*, be placed in water containing Carbolic Acid or Carbolate of Lime, and then in boiling water.

All Discharges from the Patients should be received directly into vessels containing a Disinfectant—Carbolate or Chloride of Lime—and not allowed to remain in the sick chamber.

DRAINS, SINKS, PRIVIES, &c., should be kept in good order, cleansed and regularly disinfected. In cases of difficulty or delay such defects should be reported to the Inspector of Nuisances.

After recovery, the sick room should be thoroughly cleansed and disinfected by fumigation with sulphur, lime washing, removal of wall paper, and washing of floors, &c., with a solution of Carbolate of Lime.

Bedding must be carefully disinfected; disinfectants will be supplied, instruction in their use given, and other assistance rendered by the Nuisance Inspector, on application. The exposure of Small-Pox patients in public places, the improper use of public carriages by persons suffering from Small-Pox, the letting of infected houses or rooms, or the exposure in any manner of infected articles, subject the offender to heavy penalties.

It is requested that information of the existence of cases of Small-Pox be forwarded early to either the Medical Officer of Health or the Inspector of Nuisances.

ALFRED HILL, M.D.,
Medical Officer of Health.

Public Office, Birmingham,
December 13th, 1873.

I also issued a hand-bill to Pawnbrokers, of which the following is a copy—

TO PAWNBROKERS.—SMALL POX.

As Small-Pox at the present time is unusually prevalent, and as there is good reason to believe that its diffusion is assisted by means of Articles deposited as Pledges, Pawnbrokers are earnestly requested, before receiving articles of Clothing and Textile Fabrics, to enquire whether Small-Pox exists in Houses from which they are brought, and, if so, to refuse receiving them.

The Sanitary Act, 29 and 30 Victoria, Chapter 90, Section 38, provides that—

> Any person who without previous disinfection gives, lends, sells, transmits, or exposes any bedding, clothing, rags, or other things which have been exposed to infection from such disorders, shall, on conviction of such offence before any Justice, be liable to a penalty not exceeding FIVE POUNDS.

ALFRED HILL, M.D.,
Medical Officer of Health.

Public Office, Birmingham,
Dec. 11th, 1873.

The following streets have had the highest number of Deaths from Zymotic diseases—

New John Street West ...	23
Farm Street	21
Bridge Street West ...	20
Heneage Street	20
Unett Street	19
Charles Henry Street ...	17
Icknield Street West ...	16
Lawley Street	16
Lower Tower Street ...	16
New Summer Street ...	16
St. Vincent Street	16
Steward Street	16
Benacre Street	15
Bordesley Street	14
Sherlock Street	14
Aston Road...	13
Bell Barn Road	13
Bishopgate Street	13
Cregoe Street	13
Great Lister Street... ...	13
Wheeler Street	13

HOSPITAL FOR INFECTIOUS DISEASES.

One of the great wants of the town is a hospital to which persons of what may be called the lower middle-class may be removed on being attacked with Small-Pox and other serious diseases of the Zymotic class. Such diseases as Small-pox and Scarlatina are, under the most favourable circumstances, terribly fatal; but their fatality is enormously increased by the want of proper treatment, which cannot be afforded in small houses and rooms and by persons already overtaxed with duties of various kinds and in possession only of restricted means. If such diseases are to be efficiently and successfully treated, there must be ensured for them isolation, good nursing, judicious dieting, well regulated ventilation, scrupulous cleanliness, careful disinfection of excreta and clothing, perfect repose of body and mind, and other conditions and appliances such as can be obtained in private houses only of the better class, but which are all available in properly conducted hospitals, such as we have in Birmingham. These general institutions, however, refuse admission to Small-Pox cases, and have only a limited provision for some other diseases of the Zymotic class. The General Hospital sets apart for them two wards, containing together fourteen beds; at the Queen's Hospital, the Secretary informs me, such diseases are treated as far as the accommodation will permit; while the only beds set apart in the Children's Hospital for Zymotic disease, are in the Scarlatina and Diphtheria Ward, which will accommodate a total of fifteen. Other cases, as Typhoid and Febricula, are received into the general wards when necessary. Thus the total number of beds available in the three principal hospitals is uncertain, and not large, and certainly altogether unequal to the work of treating the whole class of Zymotic infectious cases occurring in the town; and if they were sufficient, it would still, on all hands, be desirable that the town should possess a separate hospital for their reception. At the Workhouse is an admirably managed series of Small-Pox Wards, which have been of great service; but, though built partly at the expense of the Borough, it is found that they can only properly be used for parish patients; and if their scope were legally wider, many persons would refuse to be sent there on account of the disabilities that attend the receipt of relief from the parish authorities, and for certain sentimental reasons which are natural enough.

What is required is a hospital to which any one—infant or adult, male or female—suffering from infectious disease of any kind might be admitted, excepting paupers, who are, or can be, adequately provided for by the Guardians of the poor. In this way would be obtained that isolation, which is so essential to prevent the communication of the diseases to other members of the household and to neighbours, and which it is absolutely impossible to obtain in the confined and crowded dwellings of the independent poor and that section of society immediately above them. There is no substitute for isolation; disinfection and cleanliness will do something to control and abate the spread of disease, but the contagion of Scarlatina and Small-Pox are so subtle and powerful, that their communicability can only be kept in check by isolation.

In order to obtain an idea of the paramount importance of more efficient means of treatment, it is only necessary to notice that out of 8,990 total deaths registered in the Borough during the past year, 2,042 were caused by seven Zymotic or infectious febrile diseases. This number is equivalent to nearly 24 per cent., or one-fourth of the total annual mortality, the average for the eighteen large English towns being 16·35 per cent., or less than one-sixth of the total annual mortality. This rate of death is also equal to 5·64 per 1,000 persons living, while the average rate for the eighteen towns is 3·95 per 1,000 persons living.

It is a question of interest to know what amount of fatal Zymotic disease exists in other large towns, and I have therefore compiled the following statistical tables for the purpose of furnishing this information:—

ANNUAL RATE OF MORTALITY PER 1,000 PERSONS LIVING, FROM SEVEN PRINCIPLE ZYMOTIC DISEASES.

Average 18 large English Towns ...	3·95
London	3·35
Norwich	2·17
Birmingham	5·64
Liverpool	3·92
Manchester	5·95
Leeds	5·66
Newcastle	6·82

PERCENTAGE OF DEATHS FROM SEVEN PRINCIPAL ZYMOTIC DISEASES UPON TOTAL DEATHS.

Average 18 large English Towns...	16·35
London	14·87
Norwich	10·1
Birmingham	23·85
Liverpool	19·07
Manchester	19·75
Leeds	20·9
Newcastle	22·6

The first of these tables shows that Birmingham, as to deaths from Zymotic disease compared with persons living, is greatly above the average of the eighteen large English towns, and is only exceeded in its rate of mortality from this cause by Manchester and Newcastle, while it is equalled by Leeds. In the second of the tables—that comparing deaths from Zymotic diseases with deaths from all causes—the proportion is higher in Birmingham than in all the other large towns, and very much higher than in some. If, however, the deaths from the Zymotic diseases be eliminated, a very different and a very noteworthy result is obtained; it is seen by the following statement that then the mortality of Birmingham is lower than that of all the other towns mentioned, except London.

Death rate per 1,000 persons per annum (excluding deaths from Zymotic diseases)—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Year
London	20·8	17·8	16·1	21·7	19·1
Norwich	24·0	18·4	16·3	18·9	19·4
Birmingham	21·3	18·7	15·9	21·1	19·25
Liverpool	24·8	21·9	20·0	21·3	22·00
Manchester	28·6	24·3	20·6	23·4	24·2
Leeds	23·5	22·4	18·1	22·9	21·7
Newcastle	23·6	22·7	21·5	24·6	23·1

Death rate per 1,000 persons per annum from all causes—

Average of 18 large towns.	London.	Norwich.	Birming'm.	Liverpool.	Manchester.	Leeds.	Newcastle.
24·05	22·45	21·57	24·8	25·9	30·17	27·35	29·9

These figures convey the important information that but for those diseases which are considered most dependent on sanitary arrangements, or, in other words, which belong to the preventable class, Birmingham would be eminently healthy among the towns. The idea, without qualification that it is actually so, holds possession still of the minds of many; it is not at all uncommon to hear assertions to that effect, and as far as natural Birmingham is concerned it has much truth in it, it is only when artificial Birmingham is considered that the impression of its superior healthiness becomes falsified. The situation presents another illustration of the trite saying that "God made the country and man made the town." The natural advantages of Birmingham are many; among them may be noticed its situation at a high elevation, on a dry porous soil, the surface of which undulates and slopes in almost every direction; and a good water supply. Its artificial advantages also are not a few; its buildings are not crowded, its population is distributed over a large acreage, it has no cellar residences, and, being the seat of many trades, its population suffers less from periods of distress than in the case with communities depending on one staple trade. All these conditions are favourable to the public health. The enquiry naturally suggests itself in the next place, what are the conditions which conduce to the comparatively large mortality which is regarded as preventable, and the answer is comprised briefly in one word, filth; or more fully, contamination of air and water. From the moment that persons begin to congregate into a community this condition is in process of being brought about, and soon resolves itself into questions of sewage and refuse disposal, water supply, and ventilation.

SEWAGE AND REFUSE DISPOSAL.

though a matter of immense importance, has never in England received the attention it merits. It is so closely connected with the existence of Typhoid, Diarrhœa, Diphtheria, and other diseases of the same class, that in all schemes for improving public health it should occupy a foremost place. The natural, and therefore only proper destination of such matters is the soil of an agricultural district, where it is at once rendered both harmless and useful; everywhere else it is a source of nuisance and danger. On the land it is in its proper place, and is a most valuable material; in every other situation it is "matter out of place" or dirt, and is positively hurtful. It should therefore be the object of all towns to get rid of refuse matters as soon as possible, their retention among the population being inevitably injurious; yet from time immemorial it has been the custom to act as if they could not be retained too long; enormous ashpits and dumbwells, sometimes not emptied for years, being the almost universal mode of immediately disposing of them. The result is, that the volatile portions ascend into, and contaminate, the air, while the liquid portions percolate continually through the quickly saturated soil and pollute the wells. A glance at the Table No. IX., giving the results of my analysis of some of the well waters of the town, will shew to what a fearful extent the pollution has gone on; and this result is promoted by that very porosity of our sandy soil, which is so favourable to natural drainage. It is clear then, that of all systems, the midden or ashpit and dumbwell system is the dirtiest, most offensive, and most unhealthy, and if it were possible, it is desirable that all excrementitious matters should be at once conveyed away to the land by means of water closets, and by the slop and other refuse liquids of towns, and employed in the irrigation of land. At present, however, Birmingham is by Chancery injunctions and other difficulties too well known, so unfortunately placed, that it is debarred from adopting the irrigation plan, and until it shall be able to do so, it is highly desirable that the next best plan, which is necessarily one of interception, should be employed; a plan which shall be free from the evils of the common ashpit or midden system, which shall obviate, as far as possible, atmospheric contamination, which shall prevent entirely soil and well water pollution, and supplant the extremely objectionable process of ordinary night soil removal, by which middens are emptied into the streets, and their offensive contents carted away. Of all the intercepting systems proposed, the one which best fulfils these conditions is some form of what is called the pail or pan system. Its advantages over the common ashpit being in addition to those above mentioned, that it compels frequent removal, that the act of removal is not offensive, that it renders impossible the leakage into cellars, dwelling-houses, and premises which is so common in ordinary ashpits or middens, and from the limited size of the receptacles, it admits readily of disinfection being practised; besides which it leaves the manure in a state favourable to profitable employment. The removal as frequently as possible of the receptacles is important, and I think it desirable that the process of mixing the contents with other matters before final disposal to the farmer, should be performed at a distance from populous neighbourhoods. For a similar reason the pan system is not adapted for indoor use, its proper place being in substitution of the common out-door privy. Neither is it suited to neighbourhoods where the streets are unsewered, because no means exist there for the proper removal of slops and other liquid refuse, which neither should nor could be introduced into the pans. The absence of sewers equally disqualifies a locality also for the adoption of any other proper mode of sewage disposal, for water closets must have an outlet, and middens require to be drained, so that this objection to the pan system is not peculiar to it, but applies equally to all. It is another reason, however, why every street should be properly sewered. An efficient system of sewerage lies at the foundation of all schemes for the improvement of public health, for without it, proper drainage is impossible, and the dryness, cleanliness, and purity of the surface of the streets and premises, and through them of the walls of dwelling-houses, so essential to health and comfort, are unattainable.

Mere wetness of soil is inimical to health, producing a damp and cold atmosphere which is found to favour among other serious ailments the existence of Phthisis or Consumption; but when to dampness and coldness are superadded organic exhalations—the products of putrefaction,—the results are so much the more serious, and doubtless tend to foster the diseases of the Zymotic class and those of a low type generally. In some instances, for want of sewers, the cellars of dwelling houses are flooded with water; but the ill effects of want of good drainage are so indisputable that it is altogether needless to enter upon them. On previous occasions in my reports, the essential importance of a complete sewerage system has been insisted upon, and it is most earnestly to be desired in the sanitary interests of the town, that the works now in progress at Saltley and the attitude of the Court of Chancery may, before the lapse of any very long time, permit what is now prohibited—the most efficient and complete system of sewerage possible.

Closely connected with good sewerage and refuse removal is the surface condition of the streets, the state of which seriously affects not only property but also the public health. The soil of Birmingham being light and sandy, its surface consisting largely of steep gradients, and its traffic being heavy and constant, cause the surface when not paved to be, under nearly all circumstances, unfavourable both to comfort and health. It is easily worn and disintegrated, loading the sewers and embarrassing the operations at the outlet, muddy in wet, dirty in dry, weather, and necessitating an amount of scavenging which it is almost impossible to provide, and which is as expensive in the end probably as a good permanent pavement. The condition of the wood pavement in Moor Street and the macadam of New Street is a good typical illustration. The points, however, at present interesting to note are that large quantities alternately of wet sludge and dry dust, both organically impure, are not insignificant factors of the great product called public health.

WATER SUPPLY.

The great importance to health of a plentiful and pure supply of water is too well recognised to render it requisite for me to insist upon it here. It is only necessary then to report upon the character of our actual supplies.

The Water Supply, which has engaged much of my attention, is derived from two sources, the Waterworks and the town wells.

That furnished from the Waterworks is derived from two sources, streams and artesian wells. It has greatly improved during the last two years, or since the Tame was abandoned as one of the sources of supply, and is now of fair quality. It might, however, and, in my opinion, ought to be still further improved by filtration and by the exclusion, wherever practicable, of impurities from the streams from which part of the supply is drawn. The turbidity which the supply frequently presents is conclusive proof of the desirability of the filtration of that portion of the water taken from streams That derived from the artesian wells being perfectly clear and very pure, would of course not require filtration, and the mixture of this with the less pure portion of the supply has the effect of greatly improving both the physical and chemical characters of the whole. In proportion as the supply is drawn from the borings, so will the quality of the water be more or less good, and *vice versâ*. Table IX. gives the analytical results of my analyses of samples furnished to me each month by the Borough Surveyor.

The water yielded by the town wells presents a marked contrast to that supplied by the Waterworks Company. During the year I have analysed samples of water from wells situated in the following localities :—Unett Street, Lower Windsor Street, Icknield Port Road, Bracebridge Street, Heath Street, Herbert Road, Dudley Road, Great Lister Street, Spring Hill, Nechells, Cromwell Street, Aston Road, Varna Road, Bradford Street, Lower Hospital Street, Nechells Park Road, Wheeley's Road, Bell Barn Road, Mount Street Nechells, Mole Street, Stratford Street, Staniforth Street, Vittoria Street, Hurst Street, Ravenhurst Street, Moseley Road, New John Street West, Weaman Row, Vauxhall Road, Smallheath, Penn Street (Deritend), and Benacre Street. My attention was drawn to these particular localities by the existence there of zymotic disease. The waters were all polluted by animal matters, and indeed the well water of the town is almost invariably bad, being to a large extent contaminated with undecomposed organic matter, solid and liquid, of animal and frequently excrementitious origin; with the products of the oxidation of these, in the form of Ammonia, Nitrates and Nitrites; and with Chlorine, a constituent of urine.

These impurities are derived from the soakage, first into the earth and thence into the wells, from privies, middens, dumbwells, sewers, pigstyes, graveyards, and general surface filth. If such impurities contain infectious material, this may or may not be destroyed in passing through the earth; if not destroyed, it is likely to produce special diseases in those who drink it. This fact has been established repeatedly with regard to Diarrhœa, Cholera, and Typhoid, etc., but it will be unneccessary to trouble you with the many cases in illustration which might be cited.

It may be accepted as a well-ascertained fact; and it leads the mind to the single conclusion that all water derived from wells in populous localities is dangerous, and may be actually injurious; and teaches us that such sources of supply ought to be abandoned, if there is any means of obtaining a better. If no purer supply is obtainable, the precaution should be taken of cooking the organic constituents of the water, and, at the same time, killing any living organisms or germs which it may contain, by boiling. After cooling, it should be filtered, and it may then be regarded as fit for use; but even then the quantity so prepared should not be retained for use more than one day. The method of analysis which I have employed is that devised by Drs. Frankland and Armstrong, undoubtedly the most ingenious, delicate, and perfect of all. It is the method by which the results of the analysis of the London waters, published monthly by the Registrar-General, are obtained; also by which the very able investigations of the Rivers Pollution Commission into the chemical characters of water, sewage, etc., have been carried on; and in order to enable the significance of the analytical results in reference to the Birmingham Water Supply to be understood and appreciated, I reproduce Dr. Frankland's own explanation of them, and his remarks upon the term Previous Sewage or Animal Contamination.

DRINKING-WATER.

Previous Sewage or Animal Contamination.

"There is reason to believe that the excrementitious matters which exist in sewage are often possessed of intensely infectious properties; and that sewage mixing with water, even in the minutest proportion, is likely, by such properties, to spread particular diseases among populations which drink the water.

Thus is explained the peculiar power which impure waters have, on many occasions, been shown to exercise in promoting great epidemics of typhoid fever and cholera.

The existence of an infectious property in water cannot be proved by chemical analysis, and is only learnt, too late, from the effects which the water produces on man. But though chemistry cannot prove any existing infectious property, it can prove if existing, certain degrees of sewage-contamination. And every sewage-contamination which chemistry can trace ought, *primâ facie*, to be held to include the probability of infectious properties.

Nearly the whole of the animal matter which gains access to drinking-water consists of sewage, that is solid and liquid excrements.

The column headed "Previous Sewage or Animal Contamination," in the accompanying analytical table, expresses, in terms of average London sewage, the amount of animal matter with which 100,000 lbs. of each water was, at some time or other, contaminated. Thus 100,000 lbs. of the water of No. 7 Court, Lower Windsor Street had been polluted with an amount of animal matter equal to that contained in 150,000 lbs. of average London sewage. So far as chemical analysis can show, the whole ofthis animal matter had been oxidized and converted into mineral and innocuous compounds at the time the analysis was made; there is, however, always a risk lest some portion (not detectable by chemical or microscopical analysis) of the noxious constituents of the original animal matters should have escaped that decomposition which has resolved the remainder into innocuous mineral compounds. But this evidence of previous contamination implies much more risk, when it occurs in water from rivers and shallow wells, than when it is met with in the water of deep wells or of deep-seated springs. In the case of river water there is great probability that the morbific matter, sometimes present in animal excreta, will be carried rapidly down the stream, escape decomposition, and produce disease in those persons who drink the water, as the organic matter of sewage undergoes decomposition very slowly when it is present in running water. In the case of shallow-well water, the decomposition and oxidation of the organic matter are also very liable to be incomplete during the rapid passage of polluted surface water into shallow wells. In the case of deep-well and spring water, however, if the proportion of previous contamination be small, this risk is very inconsiderable, and may be regarded as *nil* if the direct access of water from the upper strata be rigidly excluded; because the excessive filtration to which such water has been subjected in passing downwards through so great a thickness of soil or rock, and the rapid oxidation of the organic matters contained in water when the latter percolates through a porous and aerated soil, afford a considerable guarantee that all noxious constituents have been removed.

It follows from what has been already stated that chemical analysis cannot discover the noxious ingredient or ingredients in water polluted by infected sewage or animal excreta; and as it cannot thus distinguish between infected and non-infected sewage, the only perfectly safe course is to avoid altogether the use, for domestic purposes, of water which has been polluted with excrementitious matters.

This is the more to be desired because there is no practicable process known, whereby water, once contaminated by infected sewage, can be so purified as to render its domestic use entirely free from risk.

Nevertheless, as it is very difficult in some localities to obtain water, which has not been more or less polluted by excrementitious matters, it is desirable to divide such previously contaminated drinking waters into three classes, viz.:—

1. Reasonably safe water.
2. Suspicious or doubtful water.
3. Dangerous water.

Reasonably safe Water.—Water, although it exhibits previous sewage or animal contamination, may be regarded as reasonably safe, when it is derived either from deep wells (say 100 feet deep), or from deep-seated springs; provided that surface-water be rigidly excluded from the well or spring, and that the proportion of previous contamination do not exceed 5,000 parts in 100,000 parts of water.

Suspicious or doubtful water is, 1st, river or flowing water which exhibits 5,000 parts per 100,000, or any less proportion, however small, of previous sewage or animal contamination; and, 2nd, well or spring water containing from 5,000 to 15,000 parts of previous contamination in 100,000 parts of water.

Dangerous water is, 1st, river or flowing water, which exhibits more than 5,000 parts of previous animal contamination in 100,000; 2nd, river or flowing water containing less than 5,000 parts of previous contamination in 100,000 parts, but which is known from an actual inspection of the river or stream, to receive sewage either discharged into it directly or mingling with it as surface drainage. River or running water should only be placed in the second class provisionally, pending an inspection of the banks of the river and tributaries; which inspection will obviously transfer it either to the class of reasonably safe water, if the previous contamination be derived exclusively from spring water, or to the class of dangerous water, if any part of the previous contamination be traced to the direct admission of sewage or excrementitious matters. 3rd, as the risk attending the use of all previously contaminated water increases in direct proportion to the amount of such contamination, well or deep-seated spring water exhibiting more than 15,000 parts of previous contamination in 100,000 must be regarded as dangerous."

Contaminated well waters do not reveal their dangerous qualities to the common observer; they are frequently clear, bright, sparkling, and cool, and so far seem to compare favourably with the purer supply; but these qualities are actually conferred by the products of sewage contamination—the bright sparkling character being due to carbonic acid, and the coolness to the greater depth from the surface and, possibly, from the large quantity of nitrate which they contain. Both these ingredients, however, are the products of decomposition of surface filth of the most abominable kind, and are in constant risk of being accompanied by deadly germs of disease, which a passage through a layer of earth has not sufficed to render harmless.

VENTILATION.

is not less important to health than the supply of pure water and a proper mode of sewage disposal, with which latter it is closely connected. Ventilation is indeed even more directly potent for good or ill, but owing to the intangible nature of air, the conditions regarding it are still more overlooked, and the evils arising from its deficient supply or vitiation, are not, at least by uneducated persons, even suspected.

Not only are some houses overcrowded, making streets too narrow and courts too confined, but they are provided with no ventilation except that which is accidental and inevitable by means of doors, windows, fireplaces, and chinks. The Bye-Laws under the Acts of 1851 and 1853, for the regulation of Lodging-houses, compel a proper attention in these to the subject of ventilation, and these Bye-Laws are zealously and efficiently enforced by the Inspector of Nuisances and his staff; but in private houses the same control cannot be exercised, and it is most desirable therefore that something should be done to effect an improvement with regard to their original construction and subsequent modification where necessary. It is a very common practice in Birmingham to erect houses in rows back to back, and in some cases this peculiarity of disposition is apparently necessary in order to prevent their falling or being blown down, so flimsily are they built; but such a mode of construction prevents what is of immense importance—a thorough draft. Not only in back-to-back houses is this the case, but sometimes in rows of single houses there are neither back-doors nor windows. Such houses, it need hardly be said, are traps for bad air, and scarcely admit of ventilation in the proper sense of the term. This mode of construction ought to be entirely abolished. For the correction of the evil, stringent Bye-Laws are required, and a code bearing upon this and other important sanitary questions is now under the consideration of the Town Clerk, the Borough Surveyor, and myself. The ventilation of sewers and drains is also of great importance, for, where it is insufficient, the sewer gases, under certain circumstances, force their way into the interior of houses, through water-closets, sink-drains, and other forms of waste pipe, producing either sudden illness, or, more frequently, slow and insidious but more fatal forms of disease.

In no case, however, should there be any communication between the interiors of houses and drains, the only absolutely safe plan being to establish a break between them by causing the waste pipe to discharge itself upon a perforated trap. Several cases of unmistakeably sewage-engendered disease of a very serious character have come under my observation during the year, arising from a neglect of this simple precaution, and there can be no doubt that a disregard of it is the unsuspected cause of an enormous amount of ill-health.

To pass from the special to the general view of the question, it is desirable that all opportunities of widening narrow streets and confined places, and of securing open spaces where possible, should be embraced as they present themselves. Crowded inhabited spaces may be compared with congested lungs, and the opening up of new space is a partial relief of that congestion, the existence of which must inevitably *pro tanto* lower the vital force of the population.

SANITARY WORK.

The greatest activity commensurate with the strength of the Inspectorial staff has been displayed in inspecting and superintending the sanitary condition of courts, dwelling-houses, slaughter-houses, &c., by cleansing, disinfecting, paving, draining, trapping drains, &c. The number of works completed during the year and a record of the sanitary work done will be found stated on page 22. At the commencement of the year, when the duties of Medical Officer of Health commenced, there were eight Inspectors, since then four additional ones have been appointed, but it is to be regretted that they are still insufficient to do more than to attend to immediate requirements. Nuisances and cases of disease as reported and observed from day to day occupy their whole time, and leave none for that systematic inspection of houses and premises which is indispensable to a general and thorough sanitary improvement. In fact since the recent great increase in the number of small-pox cases, attention to these and collateral work absorb nearly the whole time of the Inspectors.

The slaughter-houses of the Borough at present are 301 in number, but the number varies from time to time. It is, however, their gradual diminution which should be aimed at, for though they are as frequently inspected as their number and position admit of, and generally fairly clean and well managed, though imperfect in construction, yet some are situated in improper places, and are crowded and deficient in space. The evils of a large number of private slaughter-houses are numerous; for instance—it is difficult to inspect them as often as necessary; if neglected, they are sources of nuisance from accumulations of blood, offal, and refuse; they are the means of introducing into the drains and sewers matters apt to lodge there, and to generate offensive and injurious gases; and by their large number and distance apart, render it easy to kill and dress animals which are unfit for human food, without detection by inspection of the inspector.

In Paris, Manchester, and some other places, public slaughter-houses have been established, few in number, but large, well appointed as to water supply, light, ventilation, drainage, imperviousness to liquids, provision for the daily removal of offal and refuse, and admitting of inspection every day, and indeed, at all times; and so supplying a check to general nuisance and the means of extinguishing the trade in unwholesome meat, which is too common and so difficult to detect under present arrangements.

The Lodging Houses are well looked after and maintained; they are duly inspected, cleansed, and ventilated, and scarcely ever are occupied to the full extent allowed; they are consequently found to be remarkably free from invasions of preventable disease, and present a marked contrast to Houses let in Lodgings, over which at present the sanitary authority has no control. Bye Laws for the regulation of these latter are now under consideration, and on receiving the sanction of the Local Government Board, these houses will be brought under a management similar to that of Common Lodging Houses, by which the condition of both will be assimilated and made in all respects superior to private houses of a similar rank. In conclusion, I have pleasure in acknowledging the uniform courtesy and assistance extended to me by your Committee, and by all the officers, especially Mr. Woolley, the inspector of nuisances, who has on all occasions most willingly rendered me information, assistance, and co-operation.

I remain,

Gentlemen,

Your obedient Servant,

ALFRED HILL, M.D.,
Medical Officer of Health.

SANITARY WORK, YEAR ENDED DECEMBER, 1873.

No. of Nuisances reported by the Inspectors and Inspected	9,882
Notices served for the Removal of Nuisances	8,585
No. of Structural Works completed	339
No. of Visits	49,667
No. of Nuisances removed on service of written notice by Inspectors	9,372
No. of Summonses issued to remove Nuisances	509
Persons Convicted	505
No. of Filthy Houses	2,671
No. of Houses where Contagious Disease has existed	726

SLAUGHTER HOUSES.

No. of Visits	14,648
Seizures of Bad Meat	189
Weight destroyed	191,096lbs.
Seizures of Fish, &c.	39

LODGING HOUSES.

Number of Visits by Day	4,637
" " Night	3,369

TABLE I.

DEATHS REGISTERED IN THE BOROUGH OF BIRMINGHAM,

During the Year ending JANUARY 3rd, 1874.

Estimated Population of the Borough in the middle of the Year 1873—355,540.

CAUSES OF DEATH.	SEX TOTAL.		AGES.																ESTIMATED POPULATION OF EACH OF THE REGISTRAR'S SUB-DISTRICTS.												YEARLY TOTAL OF THE BOROUGH.
	Males.	Females.	0 and under 1		1 and under 5		5 and under 10		10 and under 20		20 and under 40		40 and under 60		60 and under 80		80 and Upwards		Ladywood H. 44,796.	St. Thomas' H. 34,177.	St. Martin's, 30,985.	St. Peter's, 12,912.	St. Philips', 7,459.	St. Paul's, 6,986.	St. Mary's, 15,580.	St. George's H. 50,717.	All Saints' W.L. 31,812.	Deritend, 53,602.	Duddeston, 47,740.	Edgbaston, 18,659.	
			M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F													
CLASS I.—Zymotic Diseases.																															
ORDER 1.—MIASMATIC.																															
1. Small-pox Vaccinated	49	33	2	1	4	3	4	5	15	7	18	15	5	1	1	1	..	..	1	7	1	4	1	1	5	12	40	7	2	1	82
Not Vaccinated	23	17	9	7	3	5	2	2	4	1	5	1	..	1	..	..	..	..	3	5	3	3	1	..	1	10	10	2	2	..	40
Not stated	2	1	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1	..	3
2. Measles	69	54	17	16	48	35	2	2	1	1	1	..	..	..	..	..	..	..	17	17	12	10	2	1	7	16	11	11	17	2	123
3. Scarlatina	289	298	14	17	198	189	67	70	9	16	1	6	..	..	..	..	..	..	68	56	49	24	5	3	27	118	22	82	122	11	587
4. Diphtheria	56	51	7	6	26	26	16	11	4	4	3	2	..	..	..	1	..	1	22	13	9	4	2	2	4	18	11	14	6	2	107
5. Quinsy	3	..	1	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	2	..	..	..	..	3
6. Croup	70	40	16	10	45	24	9	6	..	..	..	..	..	..	..	..	..	..	14	11	7	6	2	..	9	20	11	13	17	..	110
7. Whooping Cough	69	100	31	31	37	67	1	1	..	..	..	..	..	1	..	..	..	..	31	8	10	6	1	1	9	38	14	13	33	5	169
8. Typhus	...	2	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	2
Enteric or Typhoid Fever	75	75	1	1	10	9	8	10	15	25	26	14	10	11	5	5	..	..	18	12	17	8	4	2	12	27	5	23	21	1	150
Simple continued Fever	18	33	2	1	6	8	2	4	3	7	3	4	1	4	1	4	..	1	5	2	9	2	2	..	3	8	11	6	3	..	51
9. Erysipelas	27	28	6	8	1	2	1	1	..	..	5	4	9	5	5	8	..	..	7	3	2	..	1	1	..	8	13	5	10	5	55
10. Puerperal Fever (Metria)	..	14	..	..	..	..	..	..	..	1	..	13	..	..	..	..	..	..	2	1	1	..	1	..	..	2	4	1	1	1	14
11. Carbuncle	2	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	2
12. Influenza	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13. Dysentery	1	3	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	2	1	..	..	4
14. Diarrhœa	384	344	262	212	92	97	2	3	..	1	1	4	6	5	18	19	3	3	79	52	78	28	9	15	28	137	78	102	106	16	728
15. Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
16. Ague	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17. Remittent Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18. Rheumatism	12	10	..	..	..	..	..	..	1	1	6	3	1	3	3	2	1	1	1	1	2	1	..	1	..	4	5	3	2	2	22
19. Other *Zymotic* Diseases	3	1	1	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	1	..	..	..	1	1	..	..	..	..	4
ORDER 2—ENTHETIC.																															
1. Syphilis	49	35	46	27	3	2	..	..	..	..	..	6	..	..	..	..	..	..	7	6	10	3	2	2	..	15	22	9	7	1	84
2. Stricture of Urethra	7	..	..	..	..	..	1	..	..	..	1	..	3	..	2	..	..	..	..	..	..	..	..	..	..	7	..	..	..	..	7
3. Hydrophobia	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
4. Glanders	1	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	2
ORDER 3—DIETIC.																															
1. Privation	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2. Want of Breast Milk	4	2	4	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	3	..	2	..	..	6
3. Purpura and Scurvy	3	7	..	1	..	3	..	..	1	1	2	..	..	1	..	1	..	..	1	1	..	..	..	..	1	1	4	2	..	..	10
4. Alcoholism a. Delirium Tremens	7	..	..	..	..	..	..	..	..	..	1	..	5	..	1	..	..	..	..	1	..	..	..	..	..	1	2	1	1	1	7
b. Intemperance	4	..	..	..	..	..	..	..	..	..	1	..	2	..	1	..	..	..	..	1	..	..	..	..	..	2	..	..	1	..	4
ORDER 4—PARASITIC.																															
1. Thrush	5	6	4	4	..	2	1	..	..	..	..	..	..	..	..	..	..	..	3	..	1	3	..	..	..	1	1	2	..	..	11
2. Worms, &c.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...	..	..	..	..	..	..	..	..	..	..	..	..
CLASS II.—Constitutional Diseases.																															
ORDER 1—DIATHETIC.																															
1. Gout	5	..	..	..	..	..	..	..	..	..	1	..	2	..	2	..	..	..	1	..	2	..	..	1	..	..	..	1	..	..	5
2. Dropsy	57	46	6	4	10	4	2	2	8	..	6	10	18	9	6	17	1	..	10	12	9	2	1	11	6	14	13	11	11	3	103
3. Cancer	39	79	..	..	2	3	1	..	..	3	8	13	11	37	15	22	2	1	17	21	8	3	..	..	1	19	17	14	10	8	118
4. Noma	..	3	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	1	..	..	..	3
5. Mortification	11	5	..	1	..	..	..	..	..	..	..	..	..	1	9	2	2	1	2	1	..	..	1	1	..	..	6	2	3	..	16
ORDER 2—TUBERCULAR.																															
1. Scrofula	8	9	1	3	1	1	1	1	2	2	1	1	1	1	1	..	..	..	2	2	2	..	1	1	1	4	..	1	3	..	17
2. Tabes Mesenterica	33	25	16	14	12	6	3	1	2	2	..	..	..	1	..	1	..	..	2	5	5	1	..	1	1	9	11	11	11	1	58
3. Phthisis (Consumption)	517	330	15	11	12	8	10	3	35	49	245	165	175	81	25	13	..	..	88	77	56	32	12	9	44	157	144	105	105	18	847
4. Hydrocephalus (Water on the Brain)	27	20	12	6	13	9	2	4	..	..	..	1	..	.	..	..	..	..	5	2	2	..	1	..	4	8	10	9	5	1	47
CLASS III.—Local Diseases.																															
ORDER 1—NERVOUS SYSTEM.																															
1. Cephalitis	12	11	2	2	5	4	3	1	1	2	..	..	1	..	..	2	..	..	1	3	2	2	..	..	..	3	4	6	1	1	23
2. Apoplexy	74	79	1	..	1	2	2	1	..	1	15	18	28	31	26	24	1	2	20	9	9	7	5	5	7	21	32	21	11	6	153
3. Paralysis	82	63	.	..	1	2	1	2	1	1	8	9	33	13	36	33	2	3	11	9	8	4	2	2	3	19	48	17	22	..	145
4. Insanity	4	4	..	..	..	..	..	..	..	..	2	..	1	2	1	2	..	..	..	2	1	..	..	..	..	..	3	..	2	..	8
5. Chorea	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6. Epilepsy	19	23	..	..	..	1	...	..	5	2	8	11	3	5	3	4	..	..	..	3	5	..	..	1	2	7	16	4	2	2	42
7. Convulsions	139	125	94	89	38	35	3	1	..	..	1	..	1	..	1	..	1	..	24	20	29	14	3	10	17	56	29	25	35	2	264
8. *Brain Disease, &c.*	136	121	34	24	35	29	11	14	7	12	11	7	21	21	15	13	2	1	40	28	14	6	6	3	11	27	41	39	34	8	257
ORDER 2—ORGANS OF CIRCULATION.																															
1. Pericarditis	5	4	1	..	1	..	..	1	..	2	2	1	1	..	..	..	..	..	1	..	..	..	..	1	1	1	..	5	..	..	9
2. Aneurism	9	1	..	..	..	..	..	..	..	..	4	..	4	1	1	..	..	..	..	5	..	..	..	..	1	4	..	..	..	..	10
3. *Heart Disease, &c.*	170	167	1	..	1	..	1	2	6	14	35	31	56	61	68	57	2	2	38	32	26	13	7	8	10	47	37	53	45	21	337
ORDER 3—RESPIRATORY ORGANS.																															
1. Laryngitis	18	16	8	3	7	6	1	3	..	1	2	..	..	2	..	1	..	..	3	4	4	1	..	..	..	6	3	6	5	2	34
2. Bronchitis	534	518	134	115	97	87	1	3	3	4	21	26	111	104	157	164	10	15	106	100	85	57	21	13	76	189	136	132	116	21	1052
3. Pleurisy	12	5	1	..	2	1	3	1	..	1	2	..	4	1	..	1	..	..	4	1	1	..	..	1	1	5	3	..	..	1	17
4. Pneumonia	165	134	44	34	51	50	5	4	3	4	20	15	23	15	19	11	..	1	31	25	19	11	2	4	10	47	35	54	53	8	299
5. Asthma	7	5	..	..	..	..	..	..	..	..	1	1	1	1	5	3	..	..	1	1	1	..	..	..	1	1	3	2	1	1	12
6. *Lung Disease, &c.*	89	71	29	15	20	19	..	1	4	1	9	7	15	14	11	11	1	3	32	14	14	11	1	..	6	29	15	18	13	7	160
ORDER 4—DIGESTIVE ORGANS.																															
1. Gastritis	6	10	2	..	..	1	..	1	..	1	..	..	3	6	1	1	..	..	2	..	2	1	..	..	3	2	1	2	2	1	16
2. Enteritis	21	11	12	5	2	2	..	..	1	..	2	2	3	1	1	1	..	..	4	1	1	2	1	..	1	5	5	4	7	1	32
3. Peritonitis	27	43	3	2	5	3	1	..	4	2	6	27	4	5	3	4	1	..	3	13	7	3	2	1	4	15	7	11	3	1	70
4. Ascites	5	6	..	..	1	1	..	..	..	..	..	1	..	1	4	3	..	..	...	2	..	..	..	..	..	3	3	1	1	1	11
5. Ulceration of Intestines	2	2	1	..	..	..	.	..	..	..	..	1	1	1	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	1	4
6. Hernia (Rupture)	11	4	4	..	.	..	..	..	..	..	1	..	2	1	4	2	..	1	..	5	..	..	..	..	1	5	..	..	3	1	15
7. Ileus	9	4	2	..	..	..	..	..	1	..	3	2	1	..	2	2	..	..	2	..	..	..	1	..	3	4	1	1	1	..	13
8. Intus-susception	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9. Stricture of Intestines	7	6	..	..	..	1	..	..	2	..	2	2	3	1	..	2	..	..	..	2	2	..	..	1	1	5	..	..	2	..	13
10. Fistula	2	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	...	2
11. *Stomach Disease, &c.*	28	18	1	3	2	1	..	..	2	1	2	5	13	4	8	3	..	1	8	6	1	..	1	1	5	7	5	6	3	3	46
12. *Pancreas Disease, &c.*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13. Hepatitis	6	10	..	..	1	1	..	..	1	...	1	1	2	4	1	4	..	..	3	2	1	2	..	..	..	2	1	3	2	..	16
14. Jaundice	5	10	4	4	..	1	..	..	..	..	..	2	1	2	..	..	..	1	1	..	1	2	..	1	..	..	3	3	4	.	15
15. *Liver Disease, &c.*	45	47	2	1	..	1	..	1	..	..	8	9	27	22	7	13	1	..	11	12	3	4	1	2	5	14	3	18	14	5	92
16. *Spleen Disease, &c.*	2	4	..	..	..	..	1	..	..	..	..	1	1	3	..	..	..	..	2	..	..	..	1	..	..	..	..	1	..	1	6
ORDER 5—URINARY ORGANS.																															
1. Nephritis	5	4	..	..	1	3	1	..	2	..	1	..	..	..	..	1	..	..	..	..	1	...	1	..	..	1	2	1	1	2	9
2. Ischuria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Nephria (Bright's Disease)	29	30	1	..	1	3	3	..	1	4	8	8	12	11	3	4	..	..	3	10	5	2	1	1	1	15	5	6	7	3	59
4. Diabetes	5	6	..	..	..	..	1	..	..	..	2	..	1	2	1	4	..	..	2	1	1	..	..	..	1	1	2	1	1	1	11
5. Stone	2	1	..	..	1	..	..	..	..	..	..	..	1	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	..	3
6. Cystitis	3	5	..	..	..	1	..	..	..	..	..	..	..	2	3	2	..	..	1	2	..	..	1	..	..	..	.	1	2	1	8
7. *Kidney Disease, &c.*	33	9	..	...	6	..	..	3	2	..	2	4	9	..	14	2	..	..	3	9	4	..	1	2	..	8	5	3	5	2	42
ORDER 6—ORGANS OF GENERATION.																															
1. Ovarian Dropsy	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	.	1	..	..	..	...	..	..	..	..	..	1	2
2. *Uterus Disease, &c.*	..	43	..	...	..	...	..	..	..	..	..	10	..	22	...	11	..	..	6	3	3	..	..	1	3	13	4	3	6	1	43
ORDER 7—ORGANS OF LOCOMOTION.																															
1. Arthritis	1	4	..	1	..	..	..	..	1	1	..	..	..	1	..	1	..	..	..	2	..	..	..	..	..	..	..	1	1	1	5
2. *Joint Disease, &c.*	26	16	12	4	9	9	..	2	..	..	2	1	1	..	2	..	..	..	4	4	5	1	1	...	..	12	4	8	3	..	42
ORDER 8—INTEGUMENTARY SYSTEM.																															
1. Phlegmon	7	15	..	2	1	2	1	1	1	1	2	5	1	3	1	1	..	..	4	..	..	2	..	..	1	7	2	2	3	1	22
2. Ulcer	12	7	7	3	1	2	..	..	..	..	..	..	2	..	2	2	..	..	3	2	..	..	1	..	2	..	5	2	4	..	19
3. *Skin Disease, &c.*	4	2	3	1	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3	..	..	6
CLASS IV.—Developmental Diseases.																															
ORDER 1—DISEASES OF CHILDREN.																															
1. Premature Birth	122	94	122	94	..	..	..	..	..	..	..	..	..	..	..	..	..	..	39	16	19	6	..	1	6	24	15	44	42	4	216
2. Cyanosis	2	4	2	4	..	..	..	..	..	..	..	...	..	..	..	..	..	..	..	1	..	..	..	..	..	...	..	4	1	..	6
3. Spina Bifida	7	4	7	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	1	..	..	1	1	1	2	2	1	11
4. Other Malformations	3	9	2	8	..	1	..	..	1	..	..	..	...	..	..	..	..	..	..	2	2	..	..	..	1	1	..	1	5	..	12
5. Teething	17	22	13	9	4	13	..	..	..	..	..	...	..	...	..	..	..	..	6	3	2	3	1	..	..	8	4	7	5	..	39
ORDER 2—DISEASES OF ADULTS.																															
1. Paramenia	..	..	..	..	..	..	..	..	..	..	..	...	..	..	..	..	..	..	.	..	..	..	..	..	..	...	..	..	..	..	..
2. Childbirth (see Puerperal Fever)	..	40	..	..	..	..	..	..	..	2	..	31	..	7	..	..	..	..	5	4	4	..	2	1	1	9	3	4	4	3	40
ORDER 3—DISEASES OF OLD PEOPLE.																															
1. Old Age	159	246	..	..	..	..	..	..	...	..	...	..	..	3	112	158	47	85	51	28	17	7	4	6	21	43	138	50	28	12	405
ORDER 4—DISEASES OF NUTRITION.																															
1. Atrophy and Debility	408	355	339	277	56	52	1	2	1	2	..	2	4	5	6	11	1	4	87	79	62	37	14	11	39	114	65	116	121	18	763
CLASS V.—Violent Deaths.																															
ORDER 1—ACCIDENTS OR NEGLIGENCE.																															
1. Fractures and Contusions	60	21	1	..	5	2	3	2	6	2	15	1	18	4	11	8	1	2	4	19	3	1	..	..	7	30	3	5	6	3	81
2. Wounds Gunshot	1	1	..	..	..	..	..	..	..	...	..	..	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	2
Cut, Stab	5	1	..	..	1	..	..	..	..	..	3	..	1	1	..	..	..	..	..	1	1	..	..	..	..	4	..	..	..	..	6
3. Burns or Scalds	39	51	2	4	19	29	8	9	3	3	4	3	1	2	2	1	..	..	2	33	..	..	..	..	..	47	..	4	4	...	90
4. Poison	4	2	..	..	2	1	..	1	..	..	1	..	1	..	..	..	..	..	..	1	..	..	..	..	..	1	..	3	1	..	6
5. Drowning	16	2	..	...	3	1	3	1	2	..	3	..	2	..	3	..	..	..	1	..	..	..	..	1	..	2	6	6	1	1	18
6. Suffocation	104	90	80	81	11	3	1	..	1	1	2	1	6	2	3	2	..	..	20	19	19	15	4	6	6	40	27	21	15	2	194
7. Otherwise	8	1	1	..	1	..	..	1	1	..	2	..	3	..	..	..	..	..	..	1	2	1	..	..	..	2	..	2	1	..	9
ORDER 3—HOMICIDE.																															
1. Murder and Manslaughter	1	1	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	...	..	..	1	..	1	..	..	..	2
ORDER 4—SUICIDE.																															
1. Wounds Gunshot	1	..	..	..	.	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
Cut, Stab	4	1	..	..	..	..	..	..	..	..	1	...	1	..	2	1	..	..	..	1	..	..	..	..	..	4	..	..	..	..	5
2. Poison	2	4	..	..	..	..	..	..	..	1	1	1	..	2	1	..	..	..	..	1	..	..	1	..	..	1	..	1	2	..	6
3. Drowning	4	1	..	...	..	..	..	..	..	..	1	..	3	1	..	..	..	..	1	2	..	..	..	..	..	..	2	..	..	..	5
4. Hanging	11	2	..	..	...	..	..	..	..	..	..	..	7	..	4	2	..	..	1	2	..	1	..	..	1	..	2	1	5	..	13
5. Otherwise	2	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	...	1	..	1	..	..	..	..	2
Violent Deaths (not classed)	..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	1	1	..	..	..	2
Sudden Deaths (cause unascertained)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...	..	..	..	..	..	..	..	..
Causes not specified or ill defined	7	3	2	1	2	..	..	..	..	..	..	..	2	1	1	1	..	..	2	2	..	..	..	..	..	1	..	3	2	..	10
Total	4695	4925	1447	1180	922	875	192	186	164	187	554	510	696	556	641	671	79	130	1007	872	685	357	135	138	425	1580	1203	1194	1161	233	8990

QUARTERLY SHEET FOR THE WHOLE YEAR.

WEEKLY REGISTER OF DEATHS IN THE BOROUGH OF BIRMINGHAM,

From December 28th, 1872, to January 3rd, 1874.

CAUSES OF DEATH.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Total for the Year
CLASS I.—Zymotic Diseases.					
ORDER 1.—MIASMATIC.					
1. Small-pox — Vaccinated	20	25	10	27	82
Small-pox — Not Vaccinated	10	12	8	10	40
Small-pox — Not stated	..	..	..	3	3
2. Measles	10	6	12	95	123
3. Scarlatina	118	82	159	228	587
4. Diphtheria	21	18	23	45	107
5. Quinsy	..	..	1	2	3
6. Croup	35	25	20	30	110
7. Whooping Cough	67	45	23	34	169
8. Typhus	..	..	2	..	2
Enteric or Typhoid Fever	26	29	42	53	150
Simple continued Fever	15	7	10	19	51
9. Erysipelas	3	15	13	24	55
10. Puerperal Fever (Metria)	..	1	4	9	14
11. Carbuncle	..	..	1	1	2
12. Influenza	..	..	..	..	..
13. Dysentery	..	..	1	3	4
14. Diarrhœa	35	51	534	108	728
15. Cholera	..	..	..	..	..
16. Ague	..	..	..	..	..
17. Remittent Fever	..	..	..	..	..
18. Rheumatism	2	5	3	12	22
19. Other Zymotic Diseases	..	1	2	1	4
ORDER 2.—ENTHETIC.					
1. Syphilis	29	16	21	18	84
2. Stricture of Urethra	1	2	4	..	7
3. Hydrophobia	..	1	..	..	1
4. Glanders	2	..	..	..	2
ORDER 3.—DIETIC.					
1. Privation	..	..	..	..	..
2. Want of Breast Milk	..	..	..	6	6
3. Purpura and Scurvy	1	4	4	1	10
4. Alcoholism — a. Delirium Tremens	2	3	1	1	7
Alcoholism — b. Intemperance	..	2	..	2	4
ORDER 4.—PARASITIC.					
1. Thrush	..	..	4	7	11
2. Worms, &c.	..	..	..	...	..
CLASS II. Constitutional Diseases.					
ORDER 1.—DIATHETIC.					
1. Gout	1	3	..	1	5
2. Dropsy	34	19	26	24	103
3. Cancer	28	21	37	32	118
4. Noma	..	..	..	3	3
5. Mortification	7	3	3	3	16
ORDER 2.—TUBERCULAR.					
1. Scrofula	4	4	4	5	17
2. Tabes Mesenterica	19	17	14	8	58
3. Phthisis (Consumption)	214	229	197	207	847
4. Hydrocephalus (Water on the Brain)	7	12	13	15	47
CLASS III. Local Diseases.					
ORDER 1.—NERVOUS SYSTEM.					
1. Cephalitis	5	3	8	7	23
2. Apoplexy	40	39	32	42	153
3. Paralysis	40	36	30	39	145
4. Insanity	2	..	4	2	8
5. Chorea	..	..	..	..	..
6. Epilepsy	17	10	6	9	42
7. Convulsions	60	59	50	95	264
8. *Brain Disease, &c.*	54	71	51	81	257
ORDER 2.—ORGANS OF CIRCULATION.					
1. Pericarditis	3	2	2	2	9
2. Aneurism	1	2	2	5	10
3. *Heart Disease, &c.*	86	69	71	111	337
ORDER 3.—RESPIRATORY ORGANS.					
1. Laryngitis	10	7	10	7	34
2. Bronchitis	353	232	144	323	1052
3. Pleurisy	4	3	6	4	17
4. Pneumonia	82	77	51	89	299
5. Asthma	3	6	1	2	12
6. *Lung Disease, &c.*	57	32	20	51	160
ORDER 4.—DIGESTIVE ORGANS.					
1. Gastritis	2	6	1	7	16
2. Enteritis	8	8	6	10	32
3. Peritonitis	14	20	13	23	70
4. Ascites	2	2	5	2	11
5. Ulceration of Intestines	1	2	1	..	4
6. Hernia (Rupture)	1	4	6	4	15
7. Ileus	2	5	3	3	13
8. Intus-susception	..	..	..	..	..
9. Stricture of Intestines	3	1	6	3	13
10. Fistula	..	..	2	..	2
11. *Stomach Disease, &c.*	6	16	11	13	46
12. *Pancreas Disease, &c.*	..	..	..	..	..
13. Hepatitis	4	3	4	5	16
14. Jaundice	4	6	3	2	15
15. *Liver Disease, &c.*	25	27	26	14	92
16. *Spleen Disease, &c.*	2	2	1	1	6
ORDER 5.—URINARY ORGANS.					
1. Nephritis	2	3	2	2	9
2. Ischuria	..	...	..	..	..
3. Nephria (Bright's Disease)	19	19	5	16	59
4. Diabetes	2	4	3	2	11
5. Stone	2	...	..	1	3
6. Cystitis	4	..	2	2	8
7. *Kidney Disease, &c.*	12	11	11	8	42
ORDER 6.—ORGANS OF GENERATION.					
1. Ovarian Dropsy	..	...	1	1	2
2. *Uterus Disease, &c.*	13	12	11	7	43
ORDER 7.—ORGANS OF LOCOMOTION.					
1. Arthritis	..	3	1	1	5
2. *Joint Disease, &c.*	5	15	10	12	42
ORDER 8.—INTEGUMENTARY SYSTEM.					
1. Phlegmon	3	5	5	9	22
2. Ulcer	4	4	6	5	10
3. *Skin Disease, &c.*	2	2	..	2	6
CLASS IV. Developmental Diseases.					
ORDER 1.—DISEASES OF CHILDREN.					
1. Premature Birth	62	60	42	52	216
2. Cyanosis	4	..	1	1	6
3. Spina Bifida	2	1	..	8	11
4. Other Malformations	5	3	1	3	12
5. Teething	11	10	7	11	39
ORDER 2.—DISEASES OF ADULTS.					
1. Paramenia	...	..	..	..	..
2. Childbirth (see Puerperal Fever)	14	11	3	12	40
ORDER 3.—DISEASES OF OLD PEOPLE.					
1. Old Age	146	84	57	118	405
ORDER 4.—DISEASES OF NUTRITION.					
1. Atrophy and Debility	161	170	197	235	763
CLASS V.—Violent Deaths.					
ORDER 1.—ACCIDENTS OR NEGLIGENCE.					
1. Fractures and Contusions	20	18	25	18	81
2. Wounds — Gunshot	..	1	1	..	2
Wounds — Cut, Stab	..	1	2	3	6
3. Burns or Scalds	28	13	12	37	90
4. Poison	1	1	3	1	6
5. Drowning	2	7	4	5	18
6. Suffocation	61	41	39	53	194
7. Otherwise	6	3	..	..	9
ORDER 3.—HOMICIDE.					
1. Murder and Manslaughter	1	..	1	..	2
ORDER 4.—SUICIDE.					
1. Wounds — Gunshot	..	1	..	..	1
Wounds — Cut, Stab	..	4	1	..	5
2. Poison	..	3	2	1	6
3. Drowning	1	1	1	2	5
4. Hanging	1	6	4	2	13
5. Otherwise	1	..	1	..	2
Violent Deaths (not classed)	..	..	..	2	2
Sudden Deaths (cause unascertained)	..	..	..	..	..
Causes not specified or ill defined	1	6	2	1	10
Total	2198	1931	2235	2626	8990

Week	1	2	3	4	5	6	7	8	9	10	11	12	13
Total	165	165	140	135	155	170	175	186	207	193	167	165	175

Week	14	15	16	17	18	19	20	21	22	23	24	25	26
Total	181	138	176	156	162	168	142	152	135	133	139	132	117

Week	27	28	29	30	31	32	33	34	35	36	37	38	39
Total	149	107	135	147	153	155	187	189	206	223	203	182	199

Week	40	41	42	43	44	45	46	47	48	49	50	51	52	53
Total	184	167	191	197	179	190	163	176	178	175	178	214	203	231

TABLE VII.

Meteorological Condition of the Air, and Amount of Rainfall for Year ending January 3rd, 1874,

Observed at 63, Bloomsbury Street, Birmingham, at 8.0 a.m., by
D. Smith, Esq., F.R.A.S., F.M.S.

The Instruments are considered to be 340 feet above the mean level of the sea.

From the returns of the Registrar-General, the area within the Municipal Boundary of the Borough of Birmingham is taken at 7,831 acres, and the Population, estimated to the middle of the year 1873, at 355,540.

1873. Months.	Pressure of Air.	TEMPERATURE OF THE AIR				Degree of Humidity of the Air, complete saturation being represented by 100	RAINFALL. Gauge 8 inches diameter. Receiving surface 8 inches above the ground.		
	Barometer	Readings of Thermometers.							
	Mean Monthly Reading (corrected and reduced to 32 degrees Fahrenheit)	Highest in Shade	Lowest in Shade.	Range of Temperature in the Month.	Mean Temperature in the Month.		Depth of Rain deposited upon a square foot of surface, in inches and parts.	Measurement converted into weight per Acre.	Number of Days on which Rain fell, when $\frac{1}{100}$ths of an inch and more was measured.
	In Parts.	Dg. Prts.	Dg. Prts.	Dg. Prts.	Dg. Prts.		In. Parts.	Tons.	
January...	29·315	55·5	25·0	30·5	41·4	92	4·48	452	19
February	29·701	50·8	24·5	26·3	35·1	95	1·76	178	11
March ...	29·448	59·2	26·8	32·4	39·9	92	2·66	269	14
April ...	29·632	72·2	29·6	42·6	46·6		0·77	78	7
May ...	29·608	70·2	33·5	36·7	50·6		2·545	258	12
June ...	29·597	76·5	43·2	33·3	58·2		1·65	166	9
July ...	29·532	89·8	46·4	43·4	62·3		5·16	519	11
August ...	29·544	76·4	47·3	29·1	61·1		3·435	347	18
September	29·553	73·2	38·5	34·7	54·0		2·13	216	8
October...	29·458	70·0	26·3	43·7	47·8		1·86	187	9
November	29·506	58·0	30·6	27·4	43·0		1·83	184	10
December	30·055	58·3	19·0	39·2	41·3		·975	98	5

The highest Mean Reading of the Barometer was in December; the lowest in January. The highest Reading of the Thermometer occurred in the week ending July 26th; the lowest in the week ending December 13th. July was the warmest month of the year, and February the coldest.

The heaviest Rainfall in any week took place in the week ending July 5th; no rain was measured in the weeks ending February 22nd, April 26th, May 17th, June 28th, September 27th, and December 13th.

July was the wettest month of the year; April the driest. Rain fell on 19 days in January, and on 5 only in December.

TABLE VIII.

New Cases of Disease coming under Treatment during the Year ending 3rd January 1874, at the following Institutions, &c.

DISEASES.	I. General Hospital.	II. General Dispensary.	III. Queen's Hospital.	IV. Children's Hospital.	V. The Wrkhouse.	VI. Out-Door Pauper Patients.	TOTAL.
Small Pox	1	29	2	1	334	114	481
Measles	6	14	2	33	92	599	746
Scarlet Fever	15	66	20	99	9	364	573
Diphtheria	8	5	5	19	...	33	70
Whooping Cough ...	2	18	7	516	7	202	752
Croup	11	..	2	8	3	2	26
Diarrhœa	314	31	720	1,400	172	1,768	4,405
Dysentery	1	...	2	25	..	...	28
Asiatic Cholera	...	...	...	...	...	...	...
Erysipelas	101	21	7	21	45	25	220
Continued Fever......	11	...	7	...	12	31	61
Typhus	...	. .	...	...	...	12	12
Typhoid	26	43	48	33	7	4	161
Relapsing	...	1	...	...	15	...	16
Febricula	19	26	81	346	61	2,160	2,693
Ague........	3	...	9	...	1	...	13
Rheumatic Fever ...	101	29	276	3	3	...	412
Puerperal Fever	..	2	...	...	3	...	5
Bronchitis & Catarrh	533	1,457	1,408	1,578	289	11,187	16,452
Influenza	..	...	2	...	...	...	2
Pleurisy & Pneumonia	85	41	92	46	17	...	281
Phthisis	530	1,614	1,394	94	135	1 392	5,159
Constl. Syphilis	198	48	44	287	270	395	1,242
All other Diseases ...	9,519	8,618	3,214	7,343	2,381	20,560	51,635
Accidents..	9,357	39	1,282	27	9	...	10,714
Totals	20,841	12,102	8,624	11,879	3,865	38,848	96,159

The above Returns are made by—I. Dr. Rickards, & Dr. Carter—II. J. Ward, Esq.—III. Dr. Leeson.—IV. Alfred Whitehead, Esq., and Andrew Dodson, Esq.—V. A. B. Simpson, Esq—VI. W. Gordon Coulton, Esq., Clerk to the Guardians.

TABLE IX.

WATER SUPPLY.—RESULTS OF ANALYSIS EXPRESSED IN PARTS PER 100,000.

1873. Date of Receipt of, Sample.	DESCRIPTION.	Temp. C.	Total solid Impurity.	Organic Carbon.	Organic Nitrogen.	Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage Contamination.	Chlorine.	Hardness.			REMARKS.
											Temporary.	Permanent.	Total.	
	BIRMINGHAM WATERWORKS SUPPLY.													
Jan. 6th	39 & 40, Stratford St., Camp Hill	6°·8	24·04	·182	·059	·002	·068	·129	382	1·71	5°·00	10°·14	15°·14	Pretty clear
Feb. 5th	8 Court, Trent Street	5°·0	25·60	·230	·044	·003	·388	·434	3583	1·71	3°·72	10°·28	14°·00	Clear
Mar. 7th	Glebe Terrace, Glebe St., St. Luke's	6°·9	27·22	·214	·048	·004	·183	·234	1542	1·73	6°·28	9°·57	15°·85	Pretty clear
Apri. 4th	2 Court, Old Inkleys	7°·1	24·74	·263	·037	·004	·366	·406	3377	1·73	6°·00	9°·14	15°·14	Clear
May 6th	Back of 22, Fox Street	9°·0	24·30	·242	·052	·003	·335	·411	3053	2·08	4°·93	8°·85	13°·78	Turbid from large particles.
June 6th	59, Lancaster Street	11°·6	22·32	·227	·032	·002	·263	·296	2328	1·73	4°·93	8°·50	13°·43	Slightly turbid
July 7th	4 Court, Holland Street	15°·0	23·38	·263	·046	·002	·232	·279	2018	1·26	4°·00	9°·14	13°.14	Turbid
Aug. 5th	152, Farm Street		23·60	·295	·026	·024	·271	·317	2597	2·08	5°·7	8°·8	14°·5	Turbid
Sep. 6th	3 Court, Bradford Street	14°·0	23·8	·247	·038	·006	·248	·253	2215	2·08	3°·8	10°·2	14°.0	Rather turbid
Oct. 6th	Back of 91, Holliday Street ...	13°·1	21·40	·288	·044	·004	·266	·313	2375	2·08	3°·60	10°·40	14°·00	Turbid from large suspended particles.
Nov. 6th	30 & 31, Bloomsbury Street ...	8°·0	21·80	·411	·042	·001	·432	·475	4000	1·70	5°·3	8°·4	13°·7	Slightly turbid
Dec. 5th	28, Green Lane	7°·4	25·38	·271	·030	0·0	·375	·405	3436	2·00	4°·6	10°·6	15°·2	Pretty clear.
	WELL WATERS.													
" 31st	26 Court, Unett Street (Small Pox)	...	87·00	...	...	·022	4·78	...	47680	10·42	...	...	...	Slightly turbid
" 31st	7 Court, Lwr. Windsor St. (Small Pox)	...	241·20	...	...	1·750	13·64	...	150000	30·92	...	...	...	
" 31st	Alma Terrace, Icknield Port rd. (Fevr)	...	63·00	...	...	·024	4·18	...	41700	6·95	...	...	...	Slightly turbid
" 31st	20 Court, Unett Street (Small Pox)	...	101·40	...	...	·014	4·96	...	49600	11·81	...	...	...	Slightly turbid
Oct. 2nd	Back of 4, Bracebridge Street (Fever)	...	136·50	...	...	2·000	3·96	...	56000	11·12	...	...	...	
" 2nd	11, Heath Street (Typhoid) ...	...	139·00	...	...	0·0	4·18	...	41500	21·54	...	...	...	
" 2nd	108 & 109, Herbert Road (Fever) ...	...	251·20	...	...	1·30	1·98	...	30500	25·01	...	...	...	
" 6th	Small Heath	...	98·00	...	...	4·500	2·86	...	65600	15·96	...	...	...	
" 22nd	Woodbine Cottage, Dudley Road ...	..	62·00	...	...	1·000	0·0	...	8220	10·42	...	...	...	Black, contains much Sulphuretted Hydrogen, turbid from black and white particles.

DRINKING WATER.

DIRECTIONS FOR READING THE RESULTS OF ANALYSIS.

The accompanying Analytical Table is to be read thus:—100,000 lbs. of Waterworks water from 39 and 40, Stratford Street, Camp Hill, contained 24·94 lbs. of solid impurity; the organic matter, constituting a portion of this impurity, contained ·182 lbs. of carbon, and ·059 lbs. of nitrogen. The above quantity of water also contained ·002 lbs. of ammonia, and ·068 lbs. of nitrogen in the form of nitrates and nitrites, whilst the total amount of *combined* nitrogen in every form was ·129 lbs. After its descent to the earth as rain, 100,000 lbs. of the water had been contaminated with animal matter equivalent to that contained in 382 lbs. of average London sewage. By gradual oxidation, this animal contamination had been, so far as analysis can show, converted into innocuous inorganic compounds before the water was submitted to investigation. The above weight of water also contained 1·71 lbs. of chlorine. Finally, 100,000 lbs. of the water contained 15·14 lbs. of carbonate of lime, or an equivalent quantity of other hardening or soap-destroying ingredients, expressed in the tables as *total hardness*; of these 5 lbs. would be got rid of by boiling the water for half-an-hour, and are therefore called *temporary hardness*, whilst 10·14 lbs. would still remain in solution, constituting *permanent hardness*.

The numbers in the Analytical Table can be converted into grains per imperial gallon by multiplying them by 7, and then moving the decimal point one place to the left. The same operation transforms the hardness in the table into degrees of hardness on Clark's scale.

Table of the Number of Deaths occurring in each Street in the Borough of Birmingham during the Year, 1873.

STREETS.	Zymotic Disease	Other Diseases
A		
Abberley Street		
Abbey Street	1	1
Aberdeen Street	1	9
A. B. Row..		
Adam Street	3	6
Adderley Street (1) ..	4	11
Adelaide Street, Deritend	5	18
Adelaide St., Duddeston	2	6
Albert Street, Deritend..	1	4
Albert Street, All Saints'		1
Albert Street, St. Peter's		
Albion Street		2
Alcester Street	5	18
Alexandra Road		
Alexandra Street ..		1
Alfred Street	1	2
Allcock Street	3	7
Allesley Street		2
Allison Street	11	19
All Saints' Street ..		2
Alma Crescent		
Alma Street		
Alston Street		5
Ampton Street		1
Anderton Road	2	3
Anderton Street		6
Andover Street	1	
Angelina Street	7	10
Ann Street	1	
Argyle Street		1
Armoury Road		
Arsenal Street	1	1
Arthur Road		
Arthur Street		3
Ashted Row	8	20
Aston Brook Street ..		1
Aston Road	13	26
Aston Street (1)	4	6
Asylum Road (1).. ...		2
Augusta Street	1	4
Augustus Road		1
Austin Street		
Avenue Road	1	3
B		
Bacchus Road(1).. ...	1	8
Bagot Street	4	15
Bailey Street	1	3
Baker Street	1	4
Balloon Street (1) ..	4	4
Balsall Heath Road ..		2
Balsall Street		1
Banbury Street	1	3
Barford Street	6	20
Barford Street South ..	11	10
Barker Street	3	8
Barlow's Road		
Barn Street	7	12
Barrack Street		1
Barr Street	6	23
Barr Street West.. ..	2	10
Bartholomew Row ..		4
Bartholomew Street ..	6	12
Baskerville Passage ..		1
Baskerville Place ..		1
Bath Passage		1
Bath Row(1)	2	7
Bath Street	2	8
Beach Street .. .	1	10
Beak Street		3
Bear Lane		1
Beatrice Crescent ..		
Beaufort Road		2
Bedford Road	1	4
Belgrave Road	2	9
Bell Barn Road	13	41
Bellis Street	1	2
Bell Street..		
Belmont Passage ..		2
Belmont Row	2	10
Benacre Street	15	7
Bennett's Hill		
Berkeley Street		
Berner's Street	1	3
Beswick Street		
Betholom Row		1
Birchall Street		3
Bird Lane	1	2
Bishopgate Street ..	13	17
Bishop St., St. Martin's..	4	12
Bishop Street, St. Mary's		
Bishop Street South ..	3	7
Bissell Street	4	16
Blake Lane		
Blews Street	2	8
Blews Street West ..	2	10
Bloomsbury	7	12
Bloomsbury Street ..	5	24
Blucher Street	5	16
Bolton Street		2
Bond Street	1	3
Bordesley Green	1	7
Bordesley Green Road ..		
Bordesley Park Road ..	5	15
Bordesley Street	14	23
Bow Street	2	9
Bowyer Street		2
Bracebridge Street ..	2	7
Bradford Street	6	25
Braithwaite Road ..		1
Branston Street	1	7
Brasshouse Passage ..		3
Brass Street	1	1
Bread Lane		
Bread Street, St. Paul's	1	9
Bread Street, St. Martin's		3
Brearley Street (1) ...	10	31
Brearley Street West ..	6	23
Brewery St., Deritend ..	1	5
Brewery St., St. Mary's		3
Brewery St., Duddeston	1	7
Brickiln Street	1	5
Bridge Road		1
Bridge street, Duddeston		
BridgeStreet,St.Thomas's		2
Bridge Street West (1) ..	20	71
Bristol Road	3	9
Bristol Street	6	23
Broad Street		3
Bromsgrove Street ..	5	19
Brookfield Road		
Brook Road		
Brook Street		2
Broom Street		2
Brueton's Walk		
Buckingham Street ..	1	5
Buck Street	2	3
Bullock Road		
Bullock Street		
Bull Ring		2
Bull Street		5
Burbury Street	3	11
Butler Street		2
C		
Calthorpe Road		3
Cambridge Crescent ..		
Cambridge Street ..		3
Camden Drive		
Camden Grove		
Camden Street	6	20
Camp Hill..	1	10
Camp Street		2
Canal Street		4
Cannon Street	5	2
Cape Lane		1
Cape Street		2
Cardigan Street	3	12
Carlisle Street	1	2
Caroline Street		1
Carpenter Road		3
Carr's Lane		2
Cartland Road		
Carver Street	3	18
Castle Street, St. Peter's	1	2
Castle Street, Deritend..		
Cathcart Street		5
Cato Street	1	3
Cato Street North ..		4
Cattell Road	3	25
Cattell Grove		3
Cecil Street	10	15
Centre Row		
Chad Road		3
Chapel House Street ..		1
Chapel Street	1	8
Chapman Road		2
Charles Arthur Street ..	6	8
Charles Henry Street ..	17	34
Charlotte Road	1	2
Charlotte Street	1	5
Chattaway Street ..		1
Cheapside	12	46
Cheatham Street		4
Checquer's Walk.. ..		4
Cherry Street		1
Cherry Wood Lane ..		1
Chester Street, Ladywood	8	15
Chester St., Duddeston..		1
Cheston Road		
Christ Church Passage ..		
Church Road, Duddeston		3
Church Road, Edgbaston	1	3
Church Street	1	9
Clarendon Road		
Clark Street	2	13
Claverdon Street.. ..	4	10
Claybrook Street.. ..		2
Clement Street	1	7
Cleve Terrace		1
Clissold Street		4
Cliveland Street	1	3
Coach Yard	1	
Coleman Street	6	9
Coleshill Street	3	17
College Street(1) . ..	2	5
Colmore Row		3
Commercial Street ..		1
Communication Row ..	2	9
Congreve Street		
Constitution Hill ..		9
Conybere Street	5	17
Cope Street		3
Coplow Street		1
Cotton Row		
Cotton Street		1
Coventry Road	10	42
Coventry Street	5	7
Cox Street..	1	7
Coxwell Road		3
Crabtree Road		2
Cranemore Street ..	2	1
Cregoe Street	13	16
Crescent		21
Crescent Wharf		
Cromwell Street	11	33
Crooked Lane		
Cross Street	1	6
Cuckoo Road	1	3
Cumberland Street ..		4
Curzon Street	4	3
Cuthbert Road	1	
D		
Dale End	5	16
Dartmouth Street ..	6	23
Darwin Street	9	19
Dawson Street		2
Dean Street	1	8
Derby Street	1	4
Devon Street	3	8
Devonshire Street ..	1	2
Digbeth	3	16
Digby Street	6	6
Doe Street..		1
Dolman Street	1	2
Drury Lane		
Duchess Road		4
Duddeston Mill Road ..		14
Duddeston Row	2	12
Dudley Road		10
Dudley Street	1	2
Dugdale Street		
Duke Street	4	1
Dymoke Street	4	17
E		
Eastern Road		
Easy Row		3
Eden Place		
Edgbaston Road		

STREETS.	Zymotic Disease	Other Disease
Edgbaston Street	3	6
Edmund Street	1	2
Edward Road		
Edward Street	4	16
Elkington Street.. ..		
Ellen Street	1	2
Ellis Street	2	2
Elvetham Road		3
Emily Street	9	7
Emmeline Street.. ..		
Enfield Road		
Engine Street		
Ernest Street ..		
Essex Street	2	9
Essington Street (1) ..	6	5
Exeter Row		7
Eyre Street (1)		3
F		
Factory Road		1
Falconer Road		1
Farm Road		1
Farm Street	21	54
Fawdry Street		
Fazeley Street	5	9
Fisher Street	2	6
Fleet Street	4	6
Floodgate Street.. ..	4	7
Florence Street		4
Fordrough Lane		
Fordrough Street ..	1	15
Ford Street	3	4
Forge Street		
Foundry Road		1
Fowler Street		7
Fox Street..	2	7
Francis Road		3
Francis Street	9	18
Frankfort Street	5	3
Franklin Street		
Frank Street .. .		5
Frederick Road		1
Frederick Street	1	4
Freeman Road		2
Freeman Street .. .	1	6
Freeth Street	2	11
Friston Street	6	13
G		
Garbett Street	5	25
Garrison Lane	3	22
Garrison Street	2	13
Gas Street..		
Geach Street	3	6
Gee Street..	5	2
Gem Street	1	3
George Road		3
George Street	2	7
George Street West ..	7	14
Gibb Street		1
Gladstone Road		
Glebe Passage		
Glebe Street		9
Gloucester Street ..		1
Glover's Road	2	
Glover's Street	2	22
Godwin Street	7	10
Golden Hillock Road ..		1
Gooch Street (1)	5	17
Goode Street	1	7
Goodrick Street	1	1
Gopsall Street	2	6
Gosta Green		4
Gough Road		5
Gough Street	2	6
Graham Street	1	6
Grange Road		5
Grantham Road		
Grant Street		6
Granville Street	6	6
Great Barr Street ..	3	6
Great Brook Street ..		26
Great Charles Street ..		5
Great Colmore Street ..	3	31
Great Francis Street ..	10	22
Great Hampton Row ..	6	25
Great Hampton Street ..	7	23
Great King Street ..	12	29
Great Lister Street ..	13	31
Great Queen Street ..		
Great Russell Street ..	9	7
Great Tindal Street ..	3	6
Greaves' Court		
Green Lane	3	9

STREETS.	Zymotic Disease	Other Diseases
Green's Court	1	3
Green Street, Deritend ..	3	6
Green Street, All Saints'		1
Green's Village	1	3
Greenway Street	1	12
Grindstone Road.. ..		
Grosvenor Row		
Grosvenor Street.. ..	1	2
Grosvenor Street West (1	6	13
Guest Street	1	5
Guildford Street	2	4
Gullet, St. Mary's ..		3
Gullet, Deritend		
Gullet, St. Thomas's ..		
H		
Hagley Road	2	8
Hall Hill Road		3
Hall Street	1	6
Hampton Street	12	15
Hampton Row		1
Handsworth New Road		
Hanley Street	2	9
Harborne Road	1	
Harding St , St. George's	3	11
Harding Street, All Saints'		4
Harford Street	1	6
Harrison's Road		
Hatchett Street	5	17
Hawkes Street	1	8
Heath Mill Lane.. ..	5	9
Heath Street	1	30
Heath Street South ..		3
Heaton Street	1	6
Helena Street		1
Heneage Street	20	30
Henley Street	1	3
Henn Street (1)		
Henn's Walk		2
Henrietta Street	3	4
Henry Street	4	15
Herbert Road	8	17
Hickman Road		
Hick Square		3
Hick Street	2	6
Highfield Road		2
Highgate Lane	1	6
Highgate Place	2	1
Highgate Street	6	23
High Park Street ..	1	6
High Street		3
High Street, Deritend ..	5	32
Hill Street	1	15
Hingeston Street ..	5	18
Hob Moor Lane		
Hockley Hill	6	11
Hockley Pool Road ..		
Hockley Street	1	11
Holborn Hill	2	5
Holland Street . ..		4
Holliday Street (1) ..	4	11
Hollier Street	3	4
Holloway Head	2	7
Holly Road		
Holt Street	4	9
Hooper Street	1	6
Hope Street (St. Martin's)	9	32
Hope Street (All Saints)		1
Horse Fair	1	2
Hospital Street	10	40
Howard Place	3	6
Howard Street	6	10
Howe Street	4	7
Hubert Street		
Hunter's Lane		
Hunter's Vale		1
Hurst Street	3	16
Hutton Street		
Hyde Road	2	4
Hylton Street		
Icknield Port Road ..	11	36
Icknield Square	2	14
Icknield Street East ..	9	32
Icknield Street West ..	16	21
Inge Street	4	11
Ingleby Street (1) ..	3	14
Inkerman Street	4	12
Irving Street (2)	15	35
Islington	5	20
Islington Row		2
Ivy Lane		2

STREETS.	Zymotic Disease	Other Diseases
J		
Jamaica Row		1
James Street		1
Jenkin's Street		1
Jennen's Row		2
Johnson Street		3
Johnstone Street.. ..		1
John Street	7	23
K		
Keeley Street		1
Kelynge Street		3
Kendall Street		
Kent Street (1)	5	10
Kent Street North ..	2	9
Kenyon Street	3	11
Key Hill	2	20
King Alfred's Place ..		5
King Edward's Place ..		1
King Edward's Road ..	3	9
Kingston Road		5
King Street		2
Kyrwick's Lane	2	7
L		
Ladypool Lane		2
Ladywell Passage ..		3
Ladywell Walk		1
Ladywood Road	3	16
Ladywood Grove.. ..	1	
Lancaster Street (1) ..	6	19
Lander Street		
Langley Road		
Lansdown Street.. ..		3
Larches Street		9
Latimer Street .. .	2	3
Latimer Street South ..	10	31
Lawley Street	16	27
Lawrence Street	5	7
Lease Lane	1	2
Ledsam Street	7	19
Lee Bank Road	8	21
Lee Crescent	1	1
Lee Mount		2
Leek Street		1
Lees Street		1
Legge Lane		4
Legge Street	3	7
Lench Street	9	15
Lennox Street	2	10
Leopold Street	5	11
Lichfield Street . ..		14
Lilly Green	1	4
Lingard Street		3
Lionel Street	1	8
Lister Street	1	8
Little Ann Street ..	2	3
Little Barr Street ..		4
Little Bow Street ..	1	4
Little Broom Street ..		
Little Cannon Street ..		1
Little Charles Street ..	2	
Little Edward Street ..	1	
Little Francis Street ..	2	2
Little Green Lane ..	2	4
Little Hill Street ..	1	5
Little King Street ..	1	11
Little Shadwell Street ..		
Liverpool Street	1	7
Livery Street		13
Lloyd Street	1	2
Lodge Road	4	24
Lombard Street	4	5
London 'Prentice Street		12
Long Acre..	2	12
Longmore Street.. ..	1	2
Long Street		11
Lord Street	1	7
Louisa Street		1
Loveday Street	1	8
Love Lane.. .. .	3	3
Lower Camden Street ..		7
Lower Dartmouth Street	2	5
Lower Darwin Street ..		
Lower Essex Street ..	3	8
Lower Fazeley Street ..	3	4
Lower Henry Street ..		
Lower Hospital Street ..	6	11
Lower Hurst Street ..	4	5

STREETS.	Zymotic Diseases	Other Diseases
Lower Hurst Street East		
Lr. King Edward's Rd. (1)	1	4
Lower Lawley Street ..	2	1
Lower Loveday Street ..		1
Lower Pershore Street ..	1	3
Lower Priory		2
Lower Russell Street ..	2	5
Lowe Street		4
Lower Temple Street ..		
Lower Tower Street (1)..	16	24
Lower Trinity Street ..	3	11
Lower Windsor Street ..	4	10
Loxton Street		4
Ludgate Hill		7
Ludgate Hill Passage ..		
Lupin Street	9	15
M		
Macdonald St., St. Geo.	8	6
Macdonald St., St. Mrtn's		3
Main Street	3	6
Malvern Hill Road ..		
Manchester Street ..	1	8
Manor Road		
Market Street	1	1
Mark Lane		1
Marroway Street		2
Marshall Street	3	4
Marshall Street South ..	1	1
Mary Ann Street.. ..	2	3
Mary Street		1
Masshouse Lane (St. Ptrs		3
Masshouse lane, Edgbstn		
Meeting House Yard ..		
Meriden Street	2	12
Metchley Lane		1
Metchley Park Road ..		
Miles Street	4	11
Milk Street	1	6
Miller Street		5
Mill Lane		2
Mill Street, Duddeston..	1	4
Mill Street, Ladywood ..		2
Milton Street	4	10
Milward Street	1	
Minories		
Moat Lane		
Moat Row		1
Moilliett Street		
Moland Street	6	19
Mole Steeet	1	3
Monmouth Street ..		2
Montague Road		
Montague Street.. ..	1	4
Montgomery Street ..		
Montpellier Street ..		4
Monument Lane	1	5
Moore's Row		
Moorsom Street		1
Moor Street	4	7
Moreton Street		3
Morville Street (1) ..	1	10
Moseley Road	2	27
Moseley Street	6	22
Mott Street	4	14
Mountfield Road.. ..		2
Mount Pleasant		2
Mount Street, St. Paul's	1	5
Mount Street, Deritend		4
Mount St., Winson Green	2	2
Mount Street, Nechells..		4
Musgrave Road	1	2
Muntz Street		4
N		
Navigation Street ..	1	16
Nechells Park Road ..	10	18
Nechells Place	1	7
Needham Street		
Needless Alley		
Nelson Street		5
Nelson Street South ..	6	16
Nelson Street West ..	6	20
New Bartholomew Street	2	8
New Bond Street ..		3
New Bridge Street ..		
New Canal Street ..	2	20
New Church Street ..	2	5
Newdegate Street ..		
New Edmund Street ..	3	6
New England		
New Hall Hill	1	3
New Hall Street	1	7
New Inkleys		3

STREETS	Zymotic Diseases	Other Diseases
New John Street ..	7	23
New John Street West(1)	23	52
New Market Street ..		
New Meeting Street ..		
New Spring Street ..		2
New Street		2
New Summer Street ..	16	18
Newton Street	2	
Newtown Row (1) ...	10	32
Nile Street		
Nineveh Road		
Noel Road..		2
Norfolk Road	2	
Norfolk Street	1	6
Norman Street		2
Northampton Street ..	1	5
Northbrook Street ..		1
Northumberland Street	1	3
North Warwick Street ..		
Northwood Street (1) ..	7	15
North Street		
Norton Street		4
Nova Scotia Street ..	2	7
Nursery Road		
O		
Old Cross Street	4	7
Old Inkleys	2	2
Old Meeting Street ..		1
Old Square	1	3
Oliver Road		3
Oliver Street	1	9
Oozells Street		
Oozells Street North ..	2	3
Ormond Street	2	11
Osler Street	4	16
Oughton Place	3	2
Outlet Road		
Owen Street	1	3
Oxford Street	4	12
Oxygen Street		2
P		
Paddington Street ..		
Pakenham Road		
Palmer Street	3	7
Parade		1
Paradise Street		
Parker Street	1	2
Park Lane (1)	1	3
Park Road, All Saints'(1)	5	39
Park Road, Edgbaston ..	1	2
Park Street	9	22
Parliament Street ..	1	4
Pebble Mill Road ..		
Peel Street	1	4
Penn Street, Deritend		4
Penn Street, Duddeston		2
Pershore Road	2	9
Pershore Street .. .	3	8
Phillip's St., St. Peter's		1
Phillip's St., St George's	4	12
Pickford Street	4	15
Piddock Street	1	5
Pigott Street	1	5
Pinfold Street	1	1
Pitney Street		1
Pitsford Street	1	2
Plough and Harrow Road		
Pope Street	2	11
Poplar Avenue East ..		
Poplar Avenue West ..		
Porchester Street ..		
Portland Road		2
Potter Street (1)	4	5
Poultry		
Powell Street		1
Prescott Street	3	3
Price Street (1)	3	16
Priestly Road	1	1
Primrose Hill	1	5
Princes Row		
Princes Street		
Princess Road		1
Princip Street	3	18
Priory Road		
Pritchett's Lane		
Pritchett Street (1) ...	7	18
Proctor Street	2	3
Prospect Row		2
Q		
Queen Street		

STREETS.	Zymotic Diseases	Other Diseases
R		
Radnor Street	1	3
Railway Terrace, Ddston	2	5
Railway Terrace, Nechells	2	6
Rann Street		3
Ratcliffe Place		
Ratcliffe Street		
Ravenhurst Street ..	6	14
Rawlins Street	2	3
Rea Street..	2	12
Rea Street South ..	5	5
Regent's Parade		
Regent Park Road ..	1	2
Regent Place	1	3
Regent Row	1	3
Regent Street		
Reservoir Retreat ..		
Reservoir Road	5	5
Richard Street	5	9
Richmond Hill Road ..		1
River Street	1	4
Rocky Lane	1	5
Rodway Street		4
Rope Walk	1	4
Rotton Park Road ..		1
Rotton Park Street ..		
Rowland Street	4	8
Rupert Street	3	13
Russell Street	1	5
Ruston Street	3	
Ruston Street North ..	5	16
Ryland Road	2	9
Ryland Street, Deritend	4	6
Ryland Street, Ladywood	1	4
Ryland Street North ..	5	12
S		
Salop Street	2	
Saltley Road	5	8
Saltley Street	2	4
Sampson Road		1
Sand Pits	1	3
Sand Street		
Sandy Lane	5	12
Sarah Street		
St. Andrew's Street ..	2	6
St. Clement's Road ..		1
St. George's Crescent ..	1	6
St. George's Street ..	7	18
St. George's Place ..	1	9
St. George's Terrace ..		
St. James' Place	1	6
St. James' Road		2
St. James' Street ..	1	7
St. Luke's Road	1	4
St. Luke's Street.. ..	2	8
St. Mark's Street ..	2	2
St. Mark's Street West ..	2	3
St. Martin's Lane ..		
St. Martin's Place ..		4
St. Martin's Row ..		
St. Martin's Street ..		12
St. Mary's Row		2
St. Mary's Street.. ..	2	6
St. Paul's Square ..		4
St. Peter's Place	1	
St. Philip's Church Yard		
St. Stephen's Street ..		
St. Vincent's Street ..	16	26
Scholefield Street ..	11	15
Scotland Passage ..		
Scotland Street		4
Scott Street		
Severn Street (1).. ..	1	1
Seymour Street		
Shadwell Street	2	2
Shakespeare Road ..	4	14
Sheepcote Lane	1	3
Sheepcote Street	6	11
Sheep Street	6	14
Sherborne Street.. ..	7	17
Sherlock Street	14	39
Shutt Lane		1
Silver Street		
Sir Harry's Road.. ..		1
Skinner Lane	4	4
Skinner Street	1	2
Slaney Street		7
Sloe Lane		1
Smallbrook Street ..	4	7
Smithfield Passage ..		3
Smithfield Street ..	2	

STREETS.	Zymotic Diseases	Other Diseases
Smith Street, St. George's	3	29
Smith Street, Duddeston	2	
Snape Street	1	3
Snow Hill ..	5	7
Soho Road	2	7
Somerset Road ..		1
Somerset Street ..	1	1
South Road	1	7
Spark Street		2
Speaking Stile Walk		
Speedwell Road ..		
Spencer Street	5	8
Spiceal Street		
Spon Terrace		
Spooner Street ..		2
Springfield Street West	1	11
Spring Hill	4	16
Spring Hill Passage		1
Spring Street	1	6
Spring Vale	1	
Stafford Street	2	4
Staniforth Street..	9	25
Steelhouse Lane ..	1	17
Stephenson Place		
Steward Street	16	14
Stewart Street		1
Stoke Street	1	8
Stone Yard		1
Stoney Lane		
Stour Street	6	8
Stratford Place		
Stratford Road	1	3
Stratford Street ..	1	4
Suffolk Street	4	15
Summer Hill	2	3
Summer Hill Street (1)..	4	57
Summer Hill Terrace		
Summer Lane	20	40
Summer Row		1
Summer St., Edgbaston	3	8
Summer St., St. Martin's		3
Sun Street..	6	13
Sun Street West ..		4
Sutton Street	1	5
Swallow Street	2	5
Swan Passage		
T		
Talbot Street	3	5
Talfourd Street	2	4
Tanter Street	1	7
Taylor Street	1	1
Temple Field Street	1	1
Temple Row		2
Temple Row West		
Temple Street		5
Tenby Street	1	4
Tenby Street North		
Tennant Street (2)	12	23
Theodore Street ..	1	9
Thimble Mill Lane	2	4
Thomas Street, St. Mary's	3	18
Thomas Street, Deritend	1	7
Thorp Street	2	8
Tillingham Street		1
Tindal Street	3	6
Tonk Street		3
Tower Street	10	30
Trafalgar Road ..		
Trent Street		
Trinity Terrace		
Turner Street		3
Tyndall Street	3	5
U		
Unett Street	19	18
Union Passage	1	2
Union Street		
Union Terrace		
Upper Dean Street		2
Upper Gough Street	1	9
Upper Highgate Street ..	1	6
Upper Hockley Street ..		
Upper Hospital Street ..	11	31
Upper Marshall Street ..		2
Upper Mill Lane ..		
Upper Priory	2	3
Upper Ryland Road	2	19
Upper Trinity Street		8
Upper Windsor Street ..	4	19
V		
Vale Street		4
Varna Road	1	7
Vaughton Street ..	6	14
Vaughton Street South ..		1
Vauxhall Grove ..		1
Vauxhall Road	3	17
Vauxhall Street ..		2
Vere Street	1	6
Vicarage Road		3
Victoria Grove		1
Victoria Street	2	8
Villa Street	3	3
Villiers Street		3
Vine Street		
Vittoria Street		3
Vyse Street	1	7
W		
Walter Street		
Ward Street		9
Warner Street	1	4
Warstone Lane	2	13
Warstone Parade East ..	1	
Warstone Parade West ..		
Warwick House Passage		
Warwick Street ..	6	12
Washington Street	2	4
Waterloo Street ..		1
Water Street	1	4
Waterworks Road		2
Watery Lane	4	22
Weaman Row		
Weaman Street ..	7	26
Wellesley Street ..		
Wellington Passage		
Wellington Road ..		5
Wellington Street	3	4
Well Lane ..		
Well Street	9	20
Westbourne Road		1
Western Road		1
Westfield Road ..		
Westley Street	1	3
Weston Street	1	4
Wharf Lane (1)	4	8
Wharf St., St. Thomas' ..	3	12
Wharf Street, Deritend ..		4
Wharf Street, Duddeston		3
Wharton Street ..		
Wheeler Street ..	13	29
Wheeley's Lane ..		4
Wheeley's Road ..		2
White Lion Passage		
Whitmore Road .	1	1
Whitmore Street ..		1
Whittall Street ..		3
Wiggin Street		1
William Edward Street	2	11
William Henry Street ..	2	2
William St., St. Thomas'	6	12
William Street, Deritend	1	1
William Street North	2	8
Willis Street	3	15
Wilton Street	1	
Windmill Street ..		2
Windsor Street ..	3	4
Winson Green Road	3	9
Winson Street		3
Witton Street		10
Woodcock Street	2	5
Wood Street, St. Thomas'		2
Wood Street, Ladywood		
Worcester Street ..		2
Worcester Wharf (1)		2
Wordsworth Road	1	1
Wrentham Street	2	12
Wright Street	2	4
Wrottesley Street	1	1
Wyndham Road ..		1
Wynn Street	3	12
X		
Y		
Yew Tree Road ..	1	1
York Passage		
York Road		
York Street	1	1
Z		
ADDENDA.		
Birmingham & Warwick Canal ..		3
Old Birmingham Canal ..		3
Edgbaston Churchyard ..		1
New Street Station		1
Small Heath Station		1
AT INSTITUTIONS.		
General Hospital	5	210
Queen's Hospital	5	156
Children's Hospital	25	31
Workhouse	88	423
Asylum	4	80
Gaol		3
Women's Hospital, Crescent		4
Blind Institution		1
TOTALS	2043	6947

Grand Total ... 8,990

NOTE.—The numbers in brackets refer to cases of Small Pox which, having occurred in the Streets to which the numerals are appended, have been subsequently removed to the Small Pox Infirmary, and there ended fatally. Each of these numbers is therefore to be added to that opposite to it in the first column.

Borough Analyst's Laboratory,
Public Office, Birmingham,
February 28th, 1874.

TO THE SANITARY COMMITTEE.

Mr. Chairman and Gentlemen,

I beg to lay before you my Annual Report on the articles of Food, Drink, and Drugs, which I have analysed during the year 1873, under the provisions of the Act for the prevention of adulteration.

Nearly all the samples, 87 in number, were purchased and submitted to me by the Inspector of Nuisances.

The following Table gives the various particulars relating to the different samples analysed :—

No.	Date.	Articles.	REMARKS.
1 ...	Feb. 8 ...	Milk ...	Not received by the Inspector. Adulterated with water. No prosecution.
2 ...	" 25 ...	" ...	Adulterated with 20% water. Fined, 20s. and costs.
3 ...	" 25 ...	" ...	Genuine.
4 ...	" 25 ...	" ...	Adulterated with 14% water. The admixture declared when purchased.
5 ...	" 25 ...	" ...	Adulterated with 20% water. Fined, 20s. and costs.
6 ...	" 26 ...	" ...	Purchased without the Borough.
7 ...	" 27 ...	" ...	Adulterated with 30% water. The admixture declared when purchased.
8 ...	March 10 ...	" ...	Adulterated with skimmed milk. No prosecution.
9 ...	" 12 ...	" ...	Adulterated with 23% water. Fined, 20s. and costs.
10 ...	" 12 ...	" ...	" " 30% " " " "
11 ...	" 12 ...	" ...	Adulterated with skimmed milk. No prosecution.
12 ...	" 25 ...	" ...	Genuine.
13 ...	" 25 ...	" ...	"
14 ...	" 25 ...	" ...	"
15 ...	" 27 ...	" ...	Adulterated with skimmed milk. No prosecution.
16 ...	" 27 ...	Sweets ...	Contained besides sugar, a little starch only. No prosecut'n.
17 ...	" 27 ...	" ..	" " " " " "
18 ...	" 27 ...	" ...	" " " " " "
19 ...	" 27 ...	" ...	" " " " " "
20 ...	" 27 ...	" ...	" " " " " "
20a...	April 15 ...	Tea ...	Adulterated. Vendor cautioned.
21 ...	" 15 ...	" ...	Faced with China clay. " "
22 ...	" 15 ..	" ...	Slightly faced. " "
23 ...	" 15 ...	" ...	" " "
24 ...	" 15 ...	" ..	Adulterated with foreign matter, some magnetic. Vendor cautioned.
25 ...	" 15 ...	" ...	" " " " " "
26 ...	" 23 ...	Butter ...	Genuine, but rancid.
27 ...	May 15 ...	" ...	A dirty pale butter, coated with a yellow kind.
28 ...	June 16 ...	Flour ...	Genuine.
29 ...	" 16 ...	" ...	"
30 ...	" 16 ...	" ...	"
31 ...	" 16 ...	" ...	"
32 ...	" 16 ...	" ...	"
33 ...	" 16 ..	" ...	"
34 ...	" 10 ...	Butter ...	"

35	July 23	Flour	Genuine
36	" 23	"	"
37	" 23	"	"
38	" 23	"	"
39	" 23	"	"
40	" 23	"	"
41	Aug. 4	Tea	Slightly adulterated.
42	" 4	"	" "
43	" 4	"	Adulterated with 6·90% sand, talc, and magnetic iron. Fined, 20s. and costs.
44	" 4	"	" " 4·70% " " " "
45	" 4	"	" " 9·0% " " " "
46	" 4	"	" " 3·31% " " " "
47	" 4	"	" " 6·04% " " " "
48	" 4	"	" " 2·20% sand, talc, and magnetic iron. Summons not proceeded with.
49	" 16	"	" " 8·7% sand, talc, and magnetic iron. Fined, 20s. and costs.
50	" 16	"	" " 4·28% sand, talc, and magnetic iron. Summons not proceeded with.
51	" 16	"	Genuine.
52	" 16	"	Adulterated with 5·74% sand, talc, and magnetic iron. Fined, 20s. and costs.
53	" 16	"	Genuine.
54	" 16	"	Adulterated with 2·11% sand, talc, and magnetic iron. Summons withdrawn.
55	" 22	"	Slightly adulterated. No iron.
56	" 22	"	" " A little iron.
57	" 22	"	" "
58	" 22	"	" "
59	" 22	"	" "
60	" 22	"	" "
61	Sept. 22	"	" "
62	" 22	"	Genuine.
63	" 22	"	"
64	" 22	"	"
65	" 27	Cocoa	Largely adulterated with sago-starch and sugar.
66	" 30	Milk	Adulterated with 10% water. Private purchaser and no prosecution.
67	Oct. 11	Tea	Adulterated with 3·8% sand and magnetic iron. No prosecution.
68	Nov. 1	"	Contained a small quantity of sand and magnetic iron.
69	Nov. 1	Tea	Contained a little sand.
70	" 1	"	Adulterated with 3·88% sand and magnetic iron. Fined 5/- and costs.
71	" 1	"	Contained a small quantity ditto.
72	" 15	"	Adulterated with sand and faced. Total adulteration, 2·82%. No prosecution.
73	" 15	"	Adulterated with plumbago, lie tea, magnetic particles, and sand. Total Adulteration, 1·58%. No prosecution.
74	" 15	"	Ditto, ditto. Total Adulteration, 5·36%. Fined £3 and costs.
75	" 15	Mustard	Genuine.
76	" 15	Tea	Faced. Total Adulteration, 1·02%.
77	" 15	"	Adulterated with plumbago, lie tea, magnetic particles, and stones. Total Adulteration, 3·16%. Fined 5/- and costs.
78	Oct. 29	Flour	Genuine.
79	Nov. 28	Beef Drp.	Consisted principally of mutton fat.
80	Dec. 1	Citrate of Magnesia	Contained no magnesia; consisted of tartaric acid, sugar, carbonate of soda, and essential oil.
81	" 1	"	Contained some magnesia.
82	" 9	Mustard	Genuine.
83	" 9	"	Adulterated with wheat-starch, and turmeric. "Labelled." No prosecution.

84 ...	Dec. 9 ...	Mustard	Adulterated with a very large quantity ditto. Fined 5/- and costs.
85 ...	" 9 ...	"	Ditto. "Labelled." No prosecution.
86 ...	...	Tea ...	Faced. Adulterated with a little lie tea; private purchaser. No prosecution.

Arranged in groups, the various articles examined, are as under :

Milk	16 samples.
Flour	13 "
Tea	41 "
Butter	3 "
Mustard	5 "
Cocoa	1 "
Beef Dripping	1 "
Citrate of Magnesia	2 "
Sweets	5 "

Of the 16 samples of Milk, 4 were genuine; 12 were adulterated, the added substance in every case being either skimmed milk or water.

All the samples of Flour were genuine.

Among the 41 samples of Tea, only 4 were genuine; 37 were adulterated. The substances variously employed as adulterants were found to be stalks and other vegetable useless matter, sand, talc, magnetic iron, common clay, china clay, plumbago, Prussian blue, and "lie tea."

The three samples of Butter were genuine, but one of them was rancid, and the other two were of very inferior quality; one was composed of two distinct sorts, the one sort enveloped in the other.

Of the five samples of Mustard, two were genuine; the remaining three were all largely adulterated with flour and turmeric.

The Cocoa was a particularly bad article, consisting almost entirely of sago-starch, and sugar, and possessing very little, if any flavour of cocoa.

The Beef Dripping, so called, was clarified mutton fat.

The Citrates of Magnesia were such only in name.

The five samples of Sweets were composed essentially of sugar, and were coloured with none but harmless materials.

Out of the total 87 samples, 30 were genuine; 47 being more or less falsified.

It is satisfactory to know that the work of the year in pursuance of the provisions of the Adulteration Act, has done much good in causing certain tradesmen to be more careful as to the quality of the goods in which they deal. I have had many proofs of this during the year, both verbal and material.

I remain,

Gentlemen,

Your obedient Servant,

ALFRED HILL, M.D.,

Borough Analyst.